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THIRTIETH

ANNUAL REPORT

OF THE

County Medical Officer of Health

AND

School Medical Officer

FOR THE

YEAR ENDED 31st DECEMBER, 1938.

PRESTON:
Printed by T. Snape & Co. Ltd., Bolton's Court.

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CONTENTS

Page

Accidents to School Children ... 77

After-Care (Orthopædic) Centres, Work done in ... 58, 59

Area, Extent, School Population, etc. ... 8

Arrangements for Treatment ... 41—57

Artificial Light Treatment ... 62—76

Aural Disease ... 53

Backwardness in Elementary School Children with Defective Hearing (Special Inquiry by Dr. R. W. Eldridge) ... 117—122

Biddulph Grange Hospital ... 59—62

Blind Children ... 101, 133

Blind Persons, Education of ... 104, 105

Child Life Protection ... 130

Children and Young Persons Act, 1933, Work under ... 129

Chronic Tonsillitis and Adenoids ... 38, 39, 53

Closure of Schools ... 77, 78

Co-operation of Parents, Teachers, etc. ... 100

Co-ordination with other Health Services ... 8—16

Crippled Children ... 56—62, 134

Deaf Children ... 101—103, 133

Deaf Persons, Training of ... 105

Defective Colour Vision as revealed by Ishihara Test (Special Inquiry by Dr. L. Fay)... 122—124

Defective Vision ... 34—36, 53—55, 136

Delicate Children ... 134

Dental Inspection and Treatment ... 9, 10, 55, 56, 137

Dental Treatment, After Results of (Special Inquiry by Mr. R. E. Hodgson, B.D.S.)... 126—129

Diphtheria Immunisation ... 78, 79

Diphtheria Immunisation in Urmston (Special Inquiry by Dr. A. V. Stocks) ... 124—126

Exceptional Children ... 133—135

Elementary Schools, Medical Inspection of ... 23—41, 131, 132

Epileptic Children ... 103, 134

Exclusions from School ... 77

Fall of Average Attendance ... 78

Findings and Review of Medical Inspection ... 24—41, 109—113

Following-up by School Nurses ... 41

Health Education ... 117

Heart Disease ... 40, 134

Hospital Treatment ... 50—62

Impetigo ... 33

Infectious Diseases ... 77—79

Immunisation Campaigns ... 78, 79

Local Government Act, 1933.—Section 111 ... 10—16

Meals and Milk, Provision of ... 91—99

Meals in School, Heating and Service of ... 99

Medical Inspection of Public Elementary Schools ... 23—41, 131, 132

Medical Inspection of Secondary, etc., Schools ... 108—116

Mentally Defective Children ... 103, 133

Minor Ailments, etc. ... 9, 53, 135

Nose and Throat Defects ... 38, 39, 53, 136

Nutrition ... 27—30, 133

Open-Air Education ... 79, 80

Open-Air School (Residential), Report of Special Sub-Committee on Provision of ... 105—107

Ophthalmic Clinics ... 9, 53

Organised Games ... 85, 86

Orthopædic and Postural Defects ... 56—62, 136

Orthoptic Treatment of Squint ... 54, 55

Otitis Media ... 37

Parents, Co-operation of ... 100

Parents' Payments ... 116

Physical Education ... 80—90

Physical Education from Point of View of School Medical Officer (Paper by Dr. R. W. Eldridge) ... 80—85

Physically Defective Children ... 56—62, 134, 135

Provision of Meals and Milk ... 91—99

Re-Inspections ... 26

Review of Findings ... 27—41

Rickets ... 40

Ringworm ... 32

Scabies ... 32

School Attendance Officers, Co-operation of ... 100

School Camps and School Journeys ... 79, 80

School Clinics ... 42—49

School Closures ... 77, 78

School Hygiene ... 17—22

School Nurses and Health Visitors, Work of ... 23, 41, 137

Secondary, etc., Schools, Medical Inspection of, etc. ... 108—116

Special Inquiries ... 117—129

Squint ... 36, 54, 55

Swimming ... 87—90

Teachers, Co-operation of ... 100

Technical and Continuation Schools, Medical Inspection of, etc. ... 111—113

Tonsils and Adenoids ... 38, 39, 53, 136

Treatment at County Council Clinics, etc. ... 9, 10, 41—76, 113—116, 135—137

Tuberculosis ... 41, 53, 134

Uncleanliness ... 31, 137

Vision, Defects of ... 34—36, 53—55, 136

Visual Acuity ... 36, 111, 113

Voluntary Bodies, Co-operation of ... 100

SCHOOL MEDICAL SUB-COMMITTEE.

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County Alderman J. W. Baron, j.p.
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Mrs. O. A. Williams, m.a.

Director of Education:
Sir Percy E. Meadon, c.b.e. m.a.

MEDICAL STAFF. (*June, 1939*).

(Jointly with the Public Health Department).

County Medical Officer of Health and School Medical Officer:

F. Hall, M.D., Ch.B., D.P.H., Barrister-at-Law.

Chief Assistant County Medical Officers:

W. C. V. Brothwood, M.A., M.D., Ch.B., M.M.S.A., D.R.C.O.G., D.P.H.
J. H. Porter, M.A., M.B., B.Ch., M.R.C.S., L.R.C.P., D.P.H.

Assistant County Medical Officers:

G. V. Ashcroft, M.D., Ch.B., M.R.C.P., D.P.H.
L. E. H. R. Barker, B.A., M.B., Ch.B., D.P.H.
R. J. Batty. B.Sc., M.D., Ch.B., D.P.H.
Elsie Catlow, B.Sc., M.B., Ch.B., D.P.H.
J. S. Cookson, M.A., M.D., B.Ch., M.R.C.S., L.R.C.P., D.P.H.
Catherine L. Corbett, M.B., Ch.B., D.P.H.
A. C. Crawford, M.B., Ch.B., D.P.H., D.T.M.
A. T. Elder, M.D., Ch.B., B.Hy., D.P.H.
R. W. Eldridge, B.Sc., D.P.A., M.D., Ch.B., M.R.C.S., L.R.C.P., D.P.H.
L. Fay, M.D., Ch.B., D.P.H.
S. C. Gawne, B.Sc., M.D., B.S., M.R.C.S., L.R.C.P., D.P.H., D.C.H.
Winniefred M. Gray, M.A., M.B., Ch.B., D.P.H
T. S. Hall, B.Sc., M.D., B.Ch., B.A.O., D.P.H.
Gladys H. Hutchinson, M.B., Ch.B.
J. R. Jagger, M.B., Ch.B., D.P.H
G. G. Johnstone, *M.C.*, M.A., M.D., B.Ch., D.P.H.
J. W. Pickup, M.D., Ch.B., D.P.H.
A. V. Stocks, M.A., M.B., B.Ch., D.P.H.
J. A. Tomb, M.B., Ch.B., D.P.H.
C. H. T. Wade, B.Sc., M.D., Ch.B., D.P.H.
C. Robertson Wilson, M.B., Ch.B., D.P.H.
G. G. Wray, M.D., Ch.B., D.P.H.
S. N. Wright, M.Sc., M.B., Ch.B., D.P.H.

Dental Surgeons:

H. Ackers, M.B., Ch.B., B.D.S., L.R.C.P., F.R.C.S.,
R. Ackers, L.D.S.
H. J. Appleyard, L.R.C.P. & S., L.R.F.P.S., L.D.S.
Margaret E. Caldwell, L.D.S.
R. G. Clague, L.D.S.
J. B. Davies, L.D.S.
F. J. W. Dewhurst, L.D.S.
S. W. Gee, L.D.S.
R. E. Hodgson, B.D.S.
J. Kershaw, L.M.S.S.A., L.D.S.
W. A. Linnell, L.D.S.
T. G. Lloyd, L.D.S.
I. F. McAsh, L.R.C.P. & S., L.R.C.S., L.R.F.P. S., H.D.D., L.D.S.
F. D. Manners, L.D.S.
E. V. Pollitt, L.D.S.
A. W. Poole, L.D.S.
A. E. Shaw, B.D.S.
T. H. Wignall, L.D.S.
F. W. Williams, B.D.S.

Ophthalmic Surgeons (part-time):

E. Allan, M.B., Ch.B.
T. S. Blacklidge, M.D., B.S., M.R.C.S., L.R.C.P., D.O.M.S.
J. M. Brodrick, M.R.C.S., L.R.C.P.
H. H. Bywater, M.D., Ch.B., D.Ch.O., F.R.C.S (Edin.).
O. M. Duthie, M.D., Ch.B.
J. A. McCann, F.R.C.P. & S., L.R.C.P., L.R.C.S., L.R.F.P.S.
N. MacInnes, M.A., M.B., Ch.B.
J. M. Morrison, M.B., Ch.B.
G. E. Plowright, M.B., Ch.B., D.O.M.S.
G. A. Renwick, M.B., Ch.M.
S. B. Smith M.R.C.S., L.R.C.P., D.O.M.S.
T. Snowball, M.A., M.B., Ch.B.
W. Sykes, L.R.C.P., L.R.C.S., L.R.F.P.S.
J. M. Wishart, M.B., Ch.B., F.R.C.S.(Edin.).

Consultant Orthopædic Surgeons (part-time):

H. Platt, M.D., M.S., F.R.C.S.
T. P. McMurray, M.Ch., F.R.C.S.(Edin.).

Orthopædic Surgeons (part time).

E. S. Brentnall, M.B., F.R.C.S.(Edin.).
H. O. Clarke, B.A., M.B., F.R.C.S.
R. S. Garden, M.B., Ch.B., M.Ch. (Orth), F.R.C.S. (Edin.).
Marguerite F. Johnstone, M.B., Ch.B.
S. M. Milner, M.A., M.B., F.R.C.S.
H. Poston, M.B., M.Ch., F.R.C.S. (Edin.).
G. E. Thomas, M.B., Ch.B., M.B., B.S., M.Ch. (Orth). F.R.C.S. (Edin.).

School Nurses and Health Visitors:

Mrs. M. Ashton
Mrs. M. R. Beckett
Miss F. H. Bellis
Mrs. A. Birchall
Miss S. Bullough
Miss A. Canton
Mrs. E. Chambers
Miss E. Cubbin
Mrs. A. W. Dewhurst
Mrs. H. M. Dewhurst
Miss H. Dickinson
Miss M. G. Dickinson
Miss M. Dudley
Miss M. Edwards
Miss M. E. Evans
Miss K. Fenton
Miss A. E. Fry
Miss D. H. Gray
Miss G. E. Gray
Mrs. S. Gray
Miss M. B. Hall
Miss I. Hanes
Miss L. M. Hartley
Miss F. M. Heseltine
Miss D. Higham
Mrs. M. A. Hilton
Miss S. N. Hodgson
Miss A. Holmes
Miss E. Hughes
Miss G. M. Hughes
Mrs. W. Hutchinson
Miss A. D Irving
Miss M. James
Miss M. Lamb
Miss E. M. Lawley
Miss C. E. Laycock
Miss A. Lynch
Miss E. Mares
Miss C. M'Cardell
Miss I. Milne
Miss L. Milner
Miss J. Moorhouse
Miss A. I. Murphy
Mrs. M. O'Connor
Miss M. Openshaw
Mrs. B. Palin
Miss M. E. Pearse
Miss E. Pope
Miss H. Pope
Miss D. H. Procter
Mrs. L. Read
Miss A. Reeves
Miss M. Rist
Miss M. Robinson
Miss M. H. Ryden
Miss E. Shaw
Miss E. Singleton
Miss M. Singleton
Miss G. Sizer
Miss A. Smith
Mrs. G. Smith
Miss A. L. Snell
Miss M. Spenceley
Miss E. W. Stewart
Mrs. E. C. Stringer
Mrs. A. Thomas
Miss J. Tomkinson
Mrs. F. M. Tregarthen
Miss F. M. Unsworth
Miss E. A. Walker
Miss A. Walters
Miss M. S. Watson
Miss J. M. Webster
Miss G. J. Wellard
Miss A. Whitter
Miss S. E. Wright

Orthopædic Nurses:

Miss M. M. Brennan
Mrs. E. J. Bromley
Miss E. H. Elkington
Mrs. F. Worrall

BIDDULPH GRANGE ORTHOPÆDIC HOSPITAL.

Senior House Surgeon:

N. Whalley, M.B., Ch.B.

Junior House Surgeon:

Marjory C. Hogg, M.B., Ch.B.

Matron:

Miss M. Rochell.

Several staff changes have taken place since the last Report was published.

Owing to the extra duties imposed on the Medical Staff and the rapid development of the Huyton Urban District, it has been necessary to appoint an additional Assistant County Medical Officer. Dr. J. S. Cookson has been appointed to this vacancy and Dr. A. T. Elder has been appointed to fill the vacancy created by the resignation of Dr. A. B. Kettle. Dr. H. Ackers has been appointed as an additional Dental Surgeon.

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LANCASHIRE EDUCATION COMMITTEE

SCHOOL MEDICAL SUB-COMMITTEE.

THIRTIETH

ANNUAL REPORT

OF THE

COUNTY MEDICAL OFFICER OF HEALTH

AND

SCHOOL MEDICAL OFFICER,

For the Year ended 31st December, 1938.

INTRODUCTION.

The Board of Education has stated that the School Medical Service is designed to improve the health conditions, both personal and in regard to environment, of the children of the nation, and that it aims at the physical improvement, and as a natural corollary, the mental and moral improvement, of coming generations.

The service therefore takes its place in the system of preventive medicine which has grown up since the beginning of this century, a system in which the centre of gravity of effort has been shifted from the environment to the individual.

An Annual Report, consisting as it does largely of figures, does not convey an adequate picture of the total work done in endeavouring to improve the nurture of the child. Much of the effort expended cannot be expressed statistically, nor will the full results be revealed save during the course of time.

This report for the year 1938 is the thirtieth in the series of Annual Reports published since the introduction of medical inspection in public elementary schools.

With regard to nutrition there is a slight increase in the percentage of children placed in the " unsatisfactory " category, though for reasons expressed in the Report this need not give rise to disquiet and the figures compare favourably with the last available for England and Wales.

An increasing number of children partake of school meals and milk in school and arrangements have been made whereby children may receive milk free and on payment during the holidays.

Every effort is being made to meet the growing demands for advice and treatment which are made on the Service. It has been found necessary to increase the number of School Clinics, and the opportunity has been taken to provide buildings of modern design which offer all necessary facilities. It must be borne in mind that they are also used for such purposes as Maternity and Child Welfare.

The Report of a Sub-Committee of the School Medical Sub-Committee appointed to consider a Memorandum on the Provision of a Residential Open Air School is included at the end of this Report.

The work of Routine Inspections was hindered to some extent by the crisis in September and events following, which necessitated a considerable amount of the Assistant County Medical Officers' time being spent on work connected with Air Raid Precautions.

The attendance of parents at medical inspections is encouraged and special invitations are extended to the parents of all children who are undergoing Routine Medical Inspection, as it is considered that the advice given by the Medical Officer with regard to school children is reflected in the home in the more careful upbringing of children not yet attending school, and is in this way a truly preventive measure.

This is the first year in which such special invitations have been sent out, and it is gratifying to note that 7,555 parents attended, an increase of 57 per cent. on the figure for last year.

AREA AND EXTENT, NUMBER OF SCHOOLS, SCHOOL POPULATION.

The area of the Administrative County of Lancaster for Elementary Education purposes is 911,487 acres. Twenty-three Municipal Boroughs and the Urban Districts of Chadderton, Farnworth, Hindley, and Ince-in-Makerfield are autonomous for Elementary Education purposes and, therefore, do not come within the scope of this report, except for Higher Education. The combined population of these Boroughs and Urban Districts is estimated at 864,010.

The population of the Elementary Education area is 1,016,590. For Higher Education and General Purposes the population is 1,880,600, while for Child Welfare purposes it is 915,747.

The following Table shows the number of Schools, Departments, etc., on December 31st, 1938:—

	Council Schools.	Non-Provided Schools.	Total.
No. of Schools	174	512	686
No. of Departments	246	633	879
Accommodation	73,002	127,198	200,200
Average number on roll ...	45,750	71,450	117,200
Average attendance	40,291	60,607	100,898
No. of Teachers	1,587	2,447	4,034

It will be seen that approximately 40 per cent. of the children in average attendance are in Council Schools.

CO-ORDINATION OF THE WORK OF THE SCHOOL MEDICAL SERVICE WITH THAT OF OTHER HEALTH SERVICES.

The County Medical Officer of Health is School Medical Officer and Chief Medical Officer to the Public Assistance Committee. In the Central Office, he is assisted by two Chief Assistant Medical Officers, who are concerned with the administration of general Public Health, the School Medical and Maternity and Child Welfare Services, Public Assistance Medical Services, the Midwives Acts and the Blind Persons Act.

In the " field " the work of the School Medical Service is co-ordinated with that of other Health Services. This is achieved in the following manner :—

The County Council's Elementary Education Area has been divided into districts. A district has been allotted to each Assistant School Medical Officer. In this district he acts both as Assistant County Medical Officer of Health and Assistant School Medical Officer and deals with all the problems of Public Health and School Medical Inspection, except those relating to Tuberculosis, in so far as the County Council is responsible for them. Co-ordination in Tuberculosis is maintained both at the Central Office and " in the field," by referring or notifying to the Tuberculosis Officer any cases of doubtful or evident disease.

In his district the Assistant School Medical Officer is assisted by School Nurses who carry out in the area allotted to them the work of School Nurse, Health Visitor and Inspector of Boarded-out Children.

The arrangements for the co-ordination of certain of the services are set out below:—

(*a*) *Infant and Child Welfare.*—In general, it is true to say that each Assistant School Medical Officer is responsible for the Infant and Child Welfare work in his district, and that each School Nurse is the Health Visitor for her area. Often the same premises are used as a School Clinic and as a Child Welfare Centre. There are, however, 8 Local Government Areas in which the Maternity and Child Welfare work is carried out by Local Authorities which are not authorities for Elementary Education, *i.e.*, are not Part III. Authorities, and there is one Part III. Authority for whom the County Council carries out Maternity and Child Welfare work.

The County Council's arrangements have several outstanding advantages. The Medical Officer and Nurses in an area have the children under observation from a very early age until the time they leave school. Time in travelling is saved and duplication of visits to any particular house are avoided. A closer contact is made with parents than would be possible if the staffs of the School Medical and Maternity and Child Welfare Services were separate.

All the facilities of the School Medical Service for the treatment of defects are available for the Infant and Child Welfare service, *e.g.*, visual defects, chronic tonsillitis and adenoids, crippling defects, dental defects.

TREATMENT OF CHILDREN UNDER SCHOOL AGE.

The following tables show the number of children under school age who have attended at the School Clinics for the ailments and conditions indicated:—

MINOR AILMENTS CLINICS.

Treatment.

No. of individual children attending	1,930
No. of attendances made	4,451
Disease or defect treated :—	
Ringworm : Scalp	2
Body	12
Scabies	42
Impetigo	203
Other Skin	314
Minor eye	186
Minor ear	121
Miscellaneous	1,190

Inspection.

688 individual children made 1,434 attendances at the various Minor Ailments Clinics for inspection by the Assistant County Medical Officers, and advice with regard to treatment was given in respect of 725 defects found.

OPHTHALMIC CLINICS.

Treatment of Defective Vision and Squint.

No. of individual children attending.	No. of attendances made.	Errors of refraction.	Other defect or disease of the eye.	No. of glasses prescribed.	No. of glasses obtained.	No. recommended for treatment other than by glasses.
456	1129	327	127	185	175	134

DENTAL CLINICS.

No. of individual children treated.	No. of attendances made.	No. of fillings.	No. of extractions.	No. of administrations of general anæsthetics.	No. of other operations performed.
710	971	158	2032	377	611

(*b*) *General Public Health.*—In their capacity as Assistant County Medical Officers, Medical Officers are concerned in the prevention and control of infectious disease and maintain close touch with the local Medical Officer of Health. In those areas where it is a duty of the County Council, Assistant County Medical Officers of Health carry out the work in connection with the registration and inspection of Nursing and Maternity Homes and investigations into maternal deaths.

(*c*) *Maternal Welfare.*—The Medical Officers in their capacity as Assistant County Medical Officers of Health take an active part in this work. At all County Council Child Welfare Centres expectant mothers are seen by the Assistant County Medical Officer of Health in charge. School Nurses, also, acting as Health Visitors, do much useful work for expectant mothers. In 1938 in this connection they made 2,300 first visits and 1,998 revisits. This has been of especial value to those mothers living in a scattered country district where it is impracticable for them to attend an Antenatal Clinic; for such expectant women the visits of the County Health Visitor have been a valuable addition to the help rendered by the local midwife and doctor. The Nurses also visit patients who have suffered from Puerperal Pyrexia in order that inquiry may be made as to their state of health and arrangements made for treatment, if necessary. In addition they visit cases of Ophthalmia Neonatorum, in some instances carrying out treatment.

The dental service of the Education Committee is available for expectant and nursing mothers, and the following table shows the number of women who took advantage of these facilities and the amount and character of the work done for them.

No. of individual women treated.	No. of attendances made.	No. of fillings.	No. of extractions.	No. of administrations of general anæsthetics.	No. of other operations performed.
797	1349	242	4595	535	858

(*d*) *County Council Hospitals.*—Arrangements have been made with some of these hospitals for the treatment of certain defects occurring in school children, *e.g.*, chronic tonsillitis and adenoids.

(*e*) *National Health Insurance* (*Juvenile Contributors and Young Persons*) *Act, 1937.*—Under the terms of this Act arrangements have been made for the Assistant School Medical Officers to furnish, on the application of a medical practitioner or of an insurance committee on his behalf, for his confidential information, such particulars as to the school medical record of any young person whom he has accepted for treatment and such other information in their possession relating to the medical history of that person as the practitioner may deem necessary for the purposes of his function in relation to the provision of medical benefit for that person.

SECTION III. LOCAL GOVERNMENT ACT, 1933.

Under this Section the County Council must, after consultation with the Councils of the County Districts, formulate arrangements for securing, whether by means of a combination of districts or otherwise, that every Medical Officer of

Health subsequently appointed for a district shall be restricted by the terms of his appointment from engaging in private practice as a medical practitioner. The Minister of Health, however, when a vacancy arises in a district, may dispense with this requirement if he is satisfied that it cannot conveniently form part of the terms of the proposed appointment. The arrangements must be embodied in an instrument in formal terms and the instrument must be under the Seal of the County Council.

A memorandum and draft proposals were submitted to the Public Health and Housing Committee in September, 1937, and to the County Council in November, 1937. The County Council approved the draft proposals and authorised the furnishing of prints thereof to the District Councils for their observations, and as a result a Schedule has been drawn up with which the County Districts are in substantial agreement.

It is worthy of note that Section 111 does not require that all vacancies shall of necessity be filled in accordance with the arrangements formulated by the County Council. The arrangements are to be regarded simply as a record prepared in advance of the way in which the compulsory requirement of the section *may* be carried into effect. They do not constitute a compulsory prescription of the County Council. It may be anticipated, however, that the Councils of County Districts in filling vacancies will usually conform to the arrangements formulated, but there may occur a few cases, possibly owing to the development of fresh circumstances, where the services of an officer restricted from engaging in private practice could be better secured by other means.

In the Administrative County of Lancaster a uniform method of implementing Section 111 is neither practicable nor desirable, and, in formulating the arrangements now submitted, several methods have been used. The following paragraphs indicate the considerations which were influential in the formation of the arrangements now proposed.

In the case of the larger County Districts which already employed a whole-time Medical Officer of Health, the requirements of Section 111 were satisfied, but in one or two instances the opportunity has been taken of grouping small contiguous districts with these larger districts, in order to promote better public health administration.

Certain County Districts, served by a part-time Medical Officer of Health, have developed to such an extent as to render it desirable to appoint a whole-time Medical Officer of Health for each district. Such a course is particularly desirable where the district administers the maternity and child welfare service and/or the school medical service. (See Part I. of the Schedule).

In the case of certain County Districts the objects of Section 111 can best be secured by appointing the same Medical Officer of Health for two or more districts with an area large enough to keep him fully employed on the duties of that office. (See Part II. of the Schedule).

Certain County Districts which, though not large enough to require the whole-time services of a Medical Officer of Health, will provide sufficient work for a whole-time officer if he undertakes in addition to the duties of Medical Officer of Health some of the medical services carried out by the County Council in that district, or in that district and one or more adjacent districts. (See Part III. of the Schedule).

In some areas, comprising one or more County Districts, Section 111 can best be implemented by the appointment of an Assistant County Medical Officer of Health as Medical Officer of Health. (See Part IV. of the Schedule.) This arrangement has already been adopted in several counties and in one or two of the County Districts in Lancashire where vacancies have arisen Assistant County Medical Officers have acted as Medical Officers of Health in a temporary capacity at the request of the County Districts concerned. The system works harmoniously. It has the advantage that it facilitates the co-ordination of the public health work of the District Council with the medical services of the County Council. The risk of overlapping and loss of efficiency is reduced to a minimum when the responsibility for all or most of the public health services in any area is entrusted to one officer.

Examples of the benefits to be derived are :—

(*a*) The school medical inspector, being also medical officer of health, is familiar with housing and other environmental conditions. The medical officer of health, in his capacity as school medical inspector, from his examination of school children and from information furnished by the parents, has an additional means of ascertaining any local conditions which are injurious to health. School teachers report children living under unsatisfactory conditions and these can be followed up. The combination is of special value in the control of epidemic diseases and verminous conditions. Environmental conditions affecting schools can be more readily dealt with, *e.g.*, nuisances in the vicinity.

(*b*) Children can be followed through from infant welfare centres to school life by the same observer. The closer contact with parents makes the officer better known, renders his other work more easy of accomplishment and is more likely to secure the ready interest of parents and their attendance at school inspections.

The experience of one of the Assistant County Medical Officers who has been acting as Medical Officer of Health for three years is interesting and may be summarised as follows :—

Advantages of Joint Appointment.

(*a*) From the point of view of the Assistant County Medical Officer of Health :—

1.—There is no delay in obtaining information as to cases of infectious disease occurring in the schools in the districts in which the Medical Officer holds the double appointment. A call at the Health Department each morning allows of the notifications being examined along with other correspondence. If a case of diphtheria, for example, has been notified, a visit can then be made to the school, if the case is a school child, *en route* to the usual place of appointment, and contacts examined and if necessary, swabs taken. Considerable saving of time has been effected in this way and more effective control of infectious disease has been possible in the schools in a number of instances.

2.—Holding the appointment of District Medical Officer of Health brings the Medical Officer into closer touch with the local general practitioners and this is useful to him in maintaining good relations with them in his work when seeing at schools, clinics and welfare centres, children who are patients of these practitioners.

3.—In interviews with parents at welfare centres and clinics it is a great advantage to have special local information, and perhaps also the added prestige, that a District Medical Officer of Health possesses.

(*b*) From the point of view of the Medical Officer of Health :—

1.—An exact inside knowledge of the local Health Services provided by the County Council is of great service to the local Medical Officer of Health in supplying accurate information, whether it be officially or in casual conversation to councillors, local officials and other enquirers. Local health propaganda is more co-ordinated and complete for the same reasons.

2.—It has been a great advantage in drawing up schemes for diphtheria immunisation and air raid precautions to have that knowledge of the County-provided services and buildings and personnel that an Assistant County Medical Officer of Health possesses.

(*c*) From a personal point of view the work has been rendered immensely more varied and interesting.

No Disadvantages of any importance have been apparent in holding the joint appointment. Allocation of time to the various duties has not been difficult. A number of the routine duties performed for the Local Council are carried out in other than the hours allotted to school clinics and welfare centres, etc.

The County Districts which most closely concern the County Council in relation to Section 111 are those in which the County Council has a duty to provide the school medical service and/or the maternity and child welfare service. The great advantages of having a whole-time medical officer in charge both of the local sanitary work and of the personal services have been mentioned in a previous paragraph. Here it is not proposed to discuss that aspect further, but simply to draw attention to those parts of the Schedule in which it is proposed that the County Council personal services shall be carried out by a medical officer who is also acting as medical officer of health.

Reference must be made to the present position of the Borough of Morecambe and Heysham (Part II. of the Schedule). This district employs a whole-time medical officer of health and administers the school medical service. Administration of the maternity and child welfare service, however, is in the hands of the County Council. It is anticipated that this service will in due course be taken over by the Borough.

With regard to Part III. of the Schedule, the County Council administers the school medical and maternity and child welfare services in Trawden, Barrowford and Whitworth. The arrangements now formulated provide for Colne and Trawden to employ one medical officer of health and for that medical officer to carry out, by an agreement between the councils concerned, including suitable financial provisions, the County Council's duties in Trawden. The arrangements formulated make similar provision in the case of Nelson and Barrowford, and Bacup and Whitworth. In these three urban districts the amount of the County Council work compared with that of the Local Sanitary Authorities is small.

Part IV. of the Schedule consists of County Districts which may employ, with the consent of the County Council, an Assistant County Medical Officer as Medical Officer of Health. In nearly all these County Districts the County Council administers the school medical service and the maternity and child welfare service. The exceptions are the Boroughs of Clitheroe and Mossley, which administer both the maternity and child welfare service and the school medical service, and the urban districts of Brierfield, Denton, Tyldesley and Ashton-in-Makerfield, which administer the maternity and child welfare service only.

As far as is possible the arrangements have been formulated to secure that Medical Officers jointly employed by the District Councils and the County Council will be fully occupied in carrying out duties in the areas to which they are appointed. It may happen in a few instances that a medical officer cannot carry out all the duties in his area and that he will need some help in his school medical and/or maternity and child welfare work. In a few other cases it may happen that the duties of his area will not fully occupy the medical officer appointed. This will necessitate his undertaking some additional work in school medical inspection and/or maternity and child welfare in an adjacent area.

As has already been stated the arrangements formulated under Section 111 are to be considered simply as a record prepared in advance of the manner in which the requirements of the section may be put into operation. There is, therefore, no legal obstacle to making those adjustments which will inevitably show themselves to be desirable, and the fact that the scheme will come into operation piecemeal over a fairly long period of years will render adjustments easy of accomplishment.

THE SCHEDULE.

PART I.

SINGLE DISTRICTS REQUIRING A WHOLE-TIME MEDICAL OFFICER OF HEALTH TO CARRY OUT THE DUTIES OF THE DISTRICT COUNCIL.

Reference Number. Column 1.	County Districts. Column 2.
	Municipal Boroughs.
1	Accrington
2	Ashton-under-Lyne.
3	Chorley.
4	Crosby.
5	Darwen.
6	Eccles.
7	Heywood.
8	Leigh.
9	Lytham St. Anne's.
10	Middleton.
11	Radcliffe.
12	Stretford.
13	Swinton and Pendlebury.
14	Widnes.
	Urban Districts.
15	Chadderton.
16	Farnworth.
17	Hindley.
18	Ince-in-Makerfield.

PART II.

DISTRICTS COMBINING FOR THE SERVICES OF A WHOLE-TIME MEDICAL OFFICER OF HEALTH TO CARRY OUT THE DUTIES OF THE SEVERAL DISTRICT COUNCILS.

Reference Number of Combined Area. Column 1.	Districts to be included therein. Column 2.
19	Haslingden M.B. Rawtenstall M.B.
20	Dalton-in-Furness U.D. Grange U.D. Ulverston U.D. Ulverston R.D.
21	Lancaster, City of Lancaster Port Health Authority.
22	Morecambe and Heysham M.B. Morecambe and Heysham Port Health Authority.
23	Golborne U.D. Newton-le-Willows U.D.

PART III.

DISTRICTS COMBINING TO APPOINT A MEDICAL OFFICER OF HEALTH WHO WILL ALSO CARRY OUT CERTAIN OF THE COUNTY COUNCIL'S FUNCTIONS BY AGREEMENT BETWEEN THE DISTRICT COUNCILS AND THE COUNTY COUNCIL.

Reference Number of Combined Area. Column 1.	Districts to be included therein. Column 2.
24	Colne M.B. Trawden U.D.
25	Nelson M.B. Barrowford U.D.
26	Bacup M.B. Whitworth U.D.

PART IV.

DISTRICTS WHICH MAY, WITH THE CONSENT OF THE COUNTY COUNCIL, EMPLOY AN ASSISTANT COUNTY MEDICAL OFFICER AS MEDICAL OFFICER OF HEALTH.

Reference Number of County District or Combined Area. Column 1.	Districts to be included therein. Column 2.
27	Carnforth U.D. Lancaster R.D. Lunesdale R.D.
28	Preesall U.D. Thornton Cleveleys U.D. Garstang R.D.
29	Fleetwood M.B. Fleetwood Port Health Authority.
30	Kirkham U.D. Poulton-le-Fylde U.D. Fylde R.D.
31	Preston R.D.
32	Fulwood U.D. Longridge U.D. Walton-le-Dale U.D.
33	Clitheroe M.B. Blackburn R.D. Clitheroe R.D.
34	Brierfield U.D. Padiham U.D. Burnley R.D.
35	Church U.D. Oswaldtwistle U.D.
36	Clayton-le-Moors U.D. Great Harwood U.D. Rishton U.D.
37	Ramsbottom U.D. Tottington U.D. Turton U.D.
38	Littleborough U.D. Milnrow U.D. Wardle U.D.

Reference Number of County District of Combined Area. Column 1.	Districts to be included therein. Column 2.
39	Crompton U.D.
	Royton U.D.
40	Mossley M.B.
	Lees U.D.
	Limehurst R.D.
41	Droylsden U.D.
	Failsworth U.D.
42	Audenshaw U.D.
	Denton U.D.
43	Kearsley U.D.
	Little Lever U.D.
	Whitefield U.D.
44	Prestwich U.D.
45	Tyldesley U.D.
	Worsley U.D.
46	Atherton U.D.
	Westhoughton U.D.
47	Urmston U.D.
48	Irlam U.D.
	Warrington R.D.
49	Abram U.D.
	Ashton-in-Makerfield U.D.
	Haydock U.D.
50	Formby U.D.
	Litherland U.D.
51	West Lancashire R.D.
52	Ormskirk U.D.
	Rainford U.D.
	Skelmersdale U.D.
53	Prescot U.D.
	Whiston R.D.
54	Huyton-with-Roby U.D.
55	Billinge and Winstanley U.D.
	Orrell U.D.
	Upholland U.D.
56	Standish-with-Langtree U.D.
	Wigan R.D.
57	Aspull U.D.
	Blackrod U.D.
	Horwich U.D.
58	Adlington U.D.
	Leyland U.D.
	Withnell U.D.
	Chorley R.D.

THE SCHOOL MEDICAL SERVICE IN RELATION TO PUBLIC ELEMENTARY SCHOOLS.

SCHOOL HYGIENE.

Hygienic schools are a very great factor in the promotion of the health of the nation. Children in such schools spend a considerable portion of their impressionable young age in hygienic surroundings and a regard for hygiene is thereby acquired by practice and experience. The schools are a daily example to the child of the hygienic way of living. They are built in open spaces, and ventilation, lighting, heating and sanitation are in accord with modern knowledge. Classrooms are large, bright and airy. Playgrounds and playing fields are provided and an adequate water supply is available for washing and drinking purposes. All this is in striking contrast to the state of affairs in the early days of elementary education when frequently the school consisted of a single classroom which was poorly ventilated and ill-lit, and in which the children were crowded together.

In the area of the Lancashire Education Committee the new schools offer every facility for a healthy school life which could be reasonably demanded. In some of the older schools, however, the position is not so happy. At each visit to a school the School Medical Inspector makes a note of any defects present and reports thereon to the Central Office, whereupon appropriate action is taken.

The following table shows the improvements which have been carried out in the schools during 1938 :--

District No.	Name of School.	Particulars of Improvements
1	Dalton-in-Furness Askam Junior and Infants' Council	Electric Lighting. Forming of Ash Pit.
	Ulverston C.E. (Infants')	Reflooring. Removal of Galleries.
	Cartmel C.E.	Reflooring.
	Broughton-in-Furness C.E.	Reflooring.
	Dalton-in-Furness Broughton Road Council	Repairs to Asphalt.
	Dalton-in-Furness Chapel Street Council	Reflooring.
	Dalton-in-Furness Lindal and Marton Council	Repairs to Window Jamb.
	Dalton-in-Furness Newton Council	Electric Lighting.
	Ulverston Dale Street Council ...	Plaster Repairs. Reflooring.
	Ulverston Sandside Council... ...	Repairs to Playground.
	Ulverston Lightburn Council ...	Repairs to Playground.
	Dalton-in-Furness Dowdales Central Council	Hedge and Post and Wire Fence.
	Haverthwaite The Leven Valley Council	Pointing to Roof. Repairs to Playground.
	Ulverston Victoria Senior Council ...	Reflooring to Woodwork Room. Blinds in Science Room.
2	Halton C.E.	Renewal of Wash Basins.
	Nether Kellet Council	Reflooring.
	Carnforth C.E.	Renewal of Stair Treads.
	Priest Hutton C.E.	Renewal of Lavatory Bowl. Electric Lighting.
	Cockerham Parochial	Triplex Range.
	Dolphinholme C.E.	Renewal of Lavatory Bowl.
	Ellel Infants	Renewal of Lavatory Bowls.
	Carnforth North Road Council ...	Electric Lighting. Repairs to Floors.
	Carnforth North Road Council Domestic Subjects Centre.	Curtains.

District No.	Name of School.	Particulars of Improvements
3	Stalmine Council	Renewal of Entrance Gates
	Nether Wyresdale Scorton C.E.	Reflooring. Renewal of Lavatory Bowls.
	Nether Wyresdale Scorton R.C.	Electric Lighting.
	Great Eccleston Copp C.E.	Machine-planing and Repairs to Wood Block Flooring.
	Hambleton Council	General Repairs to School House. Display Friezes.
	Forton Council	Concrete Yard and Paths to School House.
	Garstang Special Subjects Centre	Renewal of Door Jambs.
4	Thornton Cleveleys Baines Endowed	Display Panels.
	Poulton-le-Fylde R.C.	Reflooring.
	Fleetwood Chaucer Council	Pointing to Boundary Wall.
	Fleetwood Blakiston Council	Floor Stops to Doors.
	Thornton Cleveleys Church Road Council	Repairs to Floors in Latrines. Reflooring in School House. Pointing to School Building and House.
	Thornton Cleveleys Burn Naze Council	Machine-planing of Floor.
	Fleetwood Bailey Senior Council	Cupboards and Shelving. Gas Cooker. Concrete Flooring.
	Thornton Cleveleys Senior Council	Repairs to Concrete Playground.
	Poulton-le-Fylde Hodgson Senior Council	Repairs to Playground. Doors to Verandahs.
5	Kirkham The Willows R.C.	Electric Lighting.
	Kirkham and Wesham Council	Machine-planing of Floor. Removal of Wall in Cellar.
	Kirkham and Wesham Council Domestic Subjects Centre	Repairs to Sink. Raising of Chimney.
6	Woodplumpton Catforth Council	Resurfacing Playground. Repairs to Water Pipe.
	Broughton-in-Preston Grammar	Erection of Folding Partition.
	Goosnargh Whitechapel Council	Repairs to Grate. Display Frieze.
	Grimsargh Parochial	Machine-planing of Floor.
	Ribchester St. Peter's and St. Paul's R.C.	Electric Lighting.
	Fulwood Watling Street Council	Repairs to Crossing. Repairs to Windows.
7	Walton-le-Dale Bamber Bridge St. Aidan's C.E.	Reflooring.
	Howick C.E.	Reflooring.
	Walton-le-Dale Lostock Hall Council	Repairs to Firegrate. Tar and Seeding to Playground. Repairs to Lead Gutter to Skylight. Repairs to W.C.
	North Meols, Banks Methodist	Refloorings. Wood Block Flooring.
8	Aighton, Bailey and Chaigley Hurst Green R.C.	Repairs to Wood Block Floors. Machine-planing of Floors. Repair to Step.
	Whalley C.E.	Repairs to Wood Block Floors. Machine-planing of Floor.

District No.	Name of School.	Particulars of Improvements.
9	Great Harwood St. John's C.E.	Reflooring. Provision of Storeroom for parochial purposes.
	Rishton Methodist	Reflooring.
	Oswaldtwistle New Lane C.E.	Reflooring.
	Great Harwood Western Council	General Repairs.
	Clayton-le-Moors Mount Pleasant Council	Lavatory Bowls. Alterations to Heating. Boundary Railings.
	Oswaldtwistle West End Council	Repairs to Boundary Wall. Asphalt Roofing Felt.
	Oswaldtwistle Moor End Council	General Repairs.
10	Livesey Feniscowles Council	General Repairs to School Structure and Domestic Subjects Centre. Tar and Seeding Playground.
11	Briercliffe Council	Repairs to Slates on Roof.
	Brierfield Walter Street Council	Reflooring. Snowboards.
12	Barrowford Council	Window Renewals. Alterations to Handicraft Room Windows.
	Blacko Council	Electric Lighting to School Electric Lighting to House.
	Trawden Council	Repairs to Floors and Steps.
13	Padiham C.E.	Reflooring.
	Padiham Methodist	Reflooring.
	Hapton C.E.	Repairs to Flag Floor. Renewal of Sink and two Lavatory Bowls.
	Sabden R.C.	Screen to Offices.
	Sabden Council	Repairs to Asphalt Playground. Repairs to Urinals. Lavatory Bowls and Staff W.C. Electric Lighting.
	Padiham Council	Pointing to Boundary Walls and Gables. Renewal of Water Pipe Time Clocks and fixing.
	Hapton Council	Pointing, Repairs and Fencing. Repairs to Flat Roof.
14	Heskin Pemberton's Grammar	Electric Lighting.
15	Leyland St. James' C.E.	Interior to two Firegrates.
	Eccleston C.E.	Reflooring.
	Ulnes Walton Council	Erection of Cycle Shed and Timber Store.
	Leyland Senior Council	Servicing of Automatic Stoker.
16	Skelmersdale Endowed	Electric Lighting.
	Skelmersdale Council	Pointing and Minor Repairs. Electric Lighting.
	Scarisbrick St. Mary's R.C.	Reflooring.
	Ormskirk Council (Girls)	Reflooring.
18	Standish-with-Langtree Standish Girls' and Infants'	Reflooring.
	Aspull R.C.	Reflooring. Improvements to Ventilation.
	Blackrod Methodist	Reflooring.

District No.	Name of School.	Particulars of Improvements.
18	Haigh Red Rock C.E.	Reflooring.
	Parbold R.C.	Electric Lighting. Repairs to Wood Blocks.
19	Ashton-in-Makerfield St. Thomas'	Electric Lighting.
	Ashton-in-Makerfield Stubshaw Cross C.E.	Electric Lighting.
	Orrell St. James' Road Council	Repairs to Floors.
	Ashton-in-Makerfield Central Council	Renewal of Stop Netting. Sign Board. Electric Lighting.
20	Turton Belmont Council	Machine-planing of Floor. Tar and Seeding Playground. Repairs to Latrines and Structure.
21	Horwich Parish C.E.	Erection of Platform.
	Westhoughton Wingates St. John's	Flooring. Repairs to Wood Blocks.
	Westhoughton Fourgates Council	Machine-planing of Floor. Playground Repairs.
22	Kearsley Moor C.E.	Reflooring.
	Kearsley Mount Methodist	Reflooring.
	Kearsley St. John's	Repairs to Stairs.
	Little Lever Senior Council	Rebuilding Boundary Wall. Repairs to Roof.
	Kearsley West Council	General Repairs. Asphalt Topping to Playground.
	Kearsley Prestolee Council	General Repairs.
23	Ramsbottom St. Andrew's C.E.	Repairs to Concrete Paving to Cloakrooms and Passages.
	Ramsbottom Summerseat Methodist	Reflooring.
	Ramsbottom Hazlehurst Council	Repairs to Playground.
24	Tottington Domestic Subjects Centre.	Alteration to Electric Light positions.
25	Prestwich Parish C.E.	Machine-planing of Floor.
	Prestwich Simister Lane Lady Wilton's	Electric Lighting. Renewal of Grate.
	Whitefield Higher Lane Council	Repairs to Water Pipe.
26	Littleborough C.E.	Reflooring of Storeroom.
	Littleborough Summit Council	Hopper Vents to Cloakrooms.
	Littleborough Shore Council	Repairs to Slates on School and House.
	Milnrow Moorhouse Council	Repairs to Asphalt.
	Whitworth Leavengreave Council	Repairs to Corridor Floor.
	Littleborough Playing Fields	Rebuilding Boundary Wall.
27	Crompton, East Crompton	Reflooring.
	Crompton, Shaw St. Joseph's R.C.	Repairs to Wood Block Floor.
	Royton Central Council	Reversing hangings of Verandah Doors.
28	Litherland R.C.	Repairs to Floors and Doors. Repairs to Grates.
	Sefton Council	Pointing and Minor Repairs.
	Litherland Lander Road Council	Pointing and Repairs.
	Litherland St. Elizabeth's R.C.	Machine-planing of Floor.
	Litherland Beach Road Council	General Repairs to Structure.
	Litherland Central Council	General Repairs to Structure.

District No.	Name of School.	Particulars of Improvement.
29	Rainford C.E.	Reflooring.
	Halewood C.E.	Firegrate with side Boiler.
	Knowsley C.E.	Display Frieze.
	Bold Heath C.E.	Concrete to Passages.
	Whiston Central Council.	Service to two Automatic Stokers.
	Huyton-with-Roby Huyton The Sylvester Council	Alterations to hanging of Doors.
	Huyton-with-Roby Huyton The Twig Lane Council	Service for Automatic Stoker.
	Huyton-with-Roby Huyton Senior Council	Service for Automatic Stoker.
30	Haydock Richard Evans Council	Pointing and Repairs.
	Haydock Richard Evans Infants' Council	General Repairs.
	Haydock Colliery Council	Pointing and Repairs. Reflooring.
	Haydock C.E.	Electric Lighting.
	Newton-in-Makerfield Newton-le-Willows St. Mary's R.C.	Reflooring.
	Rixton-with-Glazebrook Hollins Green C.E.	Reflooring.
	Winwick C.E.	Reflooring. Extension of Storeroom.
	Burtonwood Council	Painting and Repairs. Electric Lighting.
	Great Sankey Council	General Repairs. Grate in Headmaster's House.
	Croft Council	Repairs to Structure and Path. Reflooring.
	Penketh Council	Creosoting, Pointing and Fence Repairs. Alteration to Electric Light Points. Display Rail.
	Earlestown Central Council	Provisional sum to deal with subsidence as and when required. Pointing and Minor Repairs. Repairs to Caretaker's House.
	Newton-in-Makerfield Earlestown Lyme Council	Repairs to Structure. Wood Fence. Tar and Seeding to Playground.
	Haydock Senior Council	Seeding to Tennis Courts. Electric Light to Stairs. Lavatory Bowl in Needlework Room.
31	Tyldesley Upper George Street Council	Reflooring and Repairs. Extension of Partition.
	Atherton Hesketh Fletcher C.E.	Reflooring.
	Atherton Chowbent	Reflooring.
	Tyldesley Senior Girls' Council	Pointing, Tiling and Repairs. Service to Automatic Stoker.
	Tyldesley Senior Boys' Council	Repairs to Railing. Drying Room. Entrance Gate Service to Automatic Stoker
32	Golborne Parochial	Reflooring.
	Golborne R.C.	Reflooring.

District No.	Name of School.	Particulars of Improvements.
33	Irlam Endowed	Floor Skimming. Wood Block Flooring. Display Frieze.
	Urmston C.E.	Reflooring. Machine-planing of Floor.
	Urmston Davyhulme C.E.	Machine-planing of Floor. Repairs to Folding Screen and Track.
	Irlam Cadishead Council	Floor Repairs. Playground Flags and Pointing.
	Urmston Flixton Council (Junior Mixed)	Repairs to Asphalt. Repairs to Wire Netting.
	Urmston Council	Repairs to Display Frieze.
	Irlam Council...	Pointing and Repairs. Renewal of Cisterns.
	Irlam Cadishead Senior Council ...	Alterations to Sink.
	Urmston Flixton Senior Council (Girls)	Repairs to Stop Netting.
34	Worsley Walkden Senior Council ...	Tar and Seeding Tennis Courts. Alterations to door hangings to Verandas. Renewal of Concrete Squares.
	Worsley Hulton Peel St. Paul's C.E.	Reflooring.
35	Denton Christ Church C.E. ...	Valuation for damage by Wear and Tear.
	Denton Russell Scott Council ...	Rebuilding Boundary Wall. Reflooring.
	Droylsden St. Mary's Infants' C.E.	Reflooring.
	Lees Zion Methodist	Reflooring.
	Failsworth C.E.	Machine-planing of Floor. Minor Floor Repairs.
	Lees, Crossbank, Hey St. John's C.E.	Reflooring.
	Droylsden Manchester Road Council	Renewal of Blackboards. Screen in Latrines.
	Droylsden Moorside Council ...	Machine-planing of Floor. Renewal of Blackboards. Tar and Seeding Playgrounds. Screen in Latrines.
	Audenshaw Council	Repairs to Gates.
	Failsworth Mather Street Council	Snowboards and Gables Repairs and Pointing.
	Droylsden Fairfield Road Council ...	Pointing. Tiling. Iron Railing. Fence.
	Denton Central Council	Pointing. Repairs to Doors and Springs.
	Audenshaw Poplar Street Council ...	Pointing and Repairs.

Note.—The item "reflooring" is intended to cover either the whole school floor or a classroom.

MEDICAL INSPECTION.

Inspection is carried out in the Schools and at Clinics. It is concerned with three groups of children, classified as Routines, Specials and Re-examinations.

(1) *Routines.*—These are :—

(*a*) " Entrants," *i.e.*, those who enter upon school life for the first time and whose ages are usually from 5—6 years.

(*b*) " Intermediates," *i.e.*, those who have attained the age of 8—9 years.

(*c*) " Leavers," *i.e.*, those of 12—13 years.

(2) *Specials.*

These are children, not being Routines, who are specially presented for examination by teachers, school attendance officers, parents, etc., because some defect is present or is suspected. Sometimes they are picked out by the medical officer or nurse in a general inspection of the School.

(3) *Re-inspections.*

These are the children who at a previous examination were found to have some defect or to need observation.

The Work Done.

The following tables show the work done in connection with Elementary Schools by the Assistant School Medical Officers and Nurses during 1938 :—

1.—At Routine Medical Inspection.

No. of Schools visited		575
No. of Departments visited		749
No. of " Entrants " examined—		
Boys	6,161	
Girls	5,951	
		12,112
No. of " Intermediates " examined—		
Boys	6,619	
Girls	6,715	
		13,334
No. of " Leavers " examined—		
Boys	5,042	
Girls	5,496	
		10,538
No. of " Specials " examined—		
Boys	3,156	
Girls	3,263	
		6,419
No. of Children examined (" Entrants," " Intermediates," " Leavers," and " Specials ")—		
Boys	20,978	
Girls	21,425	
		42,403
No. of Children re-examined		15,746
No. of Parents interviewed as part of the systematic inspection		7,555
No. of Homes visited		78

2.—At Visits other than Routine.

No. of re-visits paid to schools	1,001
No. of examinations of "Specials" at re-visits to Schools, or at School Clinics	34,065
No. of re-inspections of children at re-visits to Schools, or at School Clinics	36,720
No. of interviews with parents at re-visits to Schools, or at School Clinics	30,389
No. of visits to homes	459

3.—At Visits by the School Nurse alone.

No. of visits paid to schools	4,342
No. of examinations of children in schools	204,009
No. of examinations of verminous children... ...	11,196
No. of examinations of children with ringworm ...	43
No. of interviews with parents at school	857
No. of visits to homes	12,541

FINDINGS OF MEDICAL INSPECTION.

(1) Routines.

The table below gives the findings in percentage form :—

			Entrants.		Inter-mediates.		Leavers.	
			Boys.	Girls.	Boys.	Girls.	Boys.	Girls.
No. Examined............**35,984**...........			6161	5951	6619	6715	5042	5496
Classification of Nutrition.	Excellent		7·7	11·1	8·2	12·3	10·3	14·5
	Normal		83·6	82·7	80·7	79·1	80·2	77·6
	Slightly Sub-normal	T	2·4	1·4	2·6	2·5	2·6	2·0
		O	6·0	4·6	7·9	5·5	6·5	5·5
	Bad	T	0·2	0·1	0·4	0·3	0·3	0·3
		O	0·1	0·1	0·2	0·2	0·04	0·07
% of Children having Defects			56·5	57·2	56·4	58·5	48·7	52·5
Mental Condition.	Dull and Backward	T	...	...	0·03	...	...	...
		O	0·9	0·5	2·2	1·4	1·7	0·7
	Feeble-minded	T	...	...	...	...	...	...
		O	0·1	...	0·2	0·06	0·3	0·1
	Imbeciles	T	...	...	...	...	...	...
		O	...	0·02	...	...	0·02	0·02
	Idiots	T	...	...	...	...	...	...
		O	...	...	...	...	...	...
Unclean-liness.	Head	T	0·8	5·7	0·6	5·1	0·4	4·9
		O	0·3	2·0	0·2	2·5	0·1	1·7
	Body	T	0·2	0·6	0·2	0·6	0·1	0·5
		O	0·3	0·07	0·3	0·3	0·1	0·1
Teeth.	Four or more Carious	T	9·3	8·5	9·8	9·5	7·5	7·6
		O	10·5	11·5	8·8	8·0	3·2	2·5
	Sepsis	T	1·4	1·5	0·9	0·8	0·4	0·4
		O	0·02	...	0·02	0·03	0·02	0·09
Skin.	Ring-worm. Scalp	T	0·08	...	...	...	...	...
		O	0·02	0·02	...	0·01	0·02	...
	Ring-worm. Body	T	0·03	...	0·02	0·01	...	...
		O	...	...	...	...	...	...
	Scabies	T	0·1	0·3	0·1	0·2	0·1	0·09
		O	...	0·02	...	0·04	...	...
	Impetigo	T	0·8	0·5	0·7	0·4	0·3	0·2
		O	0·06	0·08	0·2	...	0·04	...
	Other Diseases (Non-Tubercular)	T	1·2	1·1	1·3	0·9	1·1	0·9
		O	1·0	0·9	0·9	0·8	0·9	1·0
Eye Diseases.	Blepharitis	T	0·5	0·4	0·4	0·7	0·5	0·6
		O	0·2	0·3	0·3	0·2	0·2	0·2
	Conjunctivitis	T	0·1	0·2	0·1	0·1	0·2	0·1
		O	0·3	0·4	0·1	0·2	0·2	0·3
	Keratitis	T	...	...	...	0·03	...	...
		O	...	...	...	...	...	0·02
	Corneal Opacities	T	...	...	...	...	...	...
		O	...	0·02	0·03	0·03	...	0·04
	Other Conditions	T	0·2	0·08	0·1	0·1	0·08	0·2
		O	0·08	0·3	0·1	0·2	0·2	0·3
	Defective Vision	T	0·5	0·3	6·4	7·0	6·5	8·1
		O	0·2	0·4	5·9	6·7	7·3	8·9
	Squint	T	1·3	1·1	0·7	0·7	0·5	0·4
		O	1·1	1·3	0·9	1·0	0·6	0·5

				Entrants.		Intermediates.		Leavers.	
				Boys.	Girls.	Boys.	Girls.	Boys.	Girls.
Ear Diseases.		Defective Hearing	T	0·2	0·3	0·2	0·2	0·3	0·1
			O	0·2	0·2	0·2	0·1	0·4	0·3
		Otitis Media	T	0·4	0·3	0·4	0·2	0·5	0·4
			O	0·1	0·05	0·08	0·1	0·2	0·07
		Other Ear Diseases	T	0·5	0·6	1·2	1·0	0·8	0·8
			O	0·1	0·1	0·3	0·3	0·2	0·2
Nose and Throat.		Chronic Tonsillitis	T	2·0	2·1	1·9	1·8	1·0	1·4
			O	12·1	11·6	8·0	8·9	6·3	6·2
		Adenoids	T	0·4	0·2	0·2	0·1	0·1	0·1
			O	0·5	0·6	0·3	0·3	0·1	0·09
		Chronic Tonsillitis and Adenoids	T	2·7	2·9	1·4	1·6	1·0	1·2
			O	1·8	1·8	1·1	0·9	0·9	0·9
		Other Conditions	T	0·7	0·3	0·6	0·5	0·5	0·4
			O	2·3	2·4	1·7	1·3	1·5	1·4
Enlarged Cervical Glands (Non-Tubercular)			T	0·3	0·2	0·2	0·07	0·06	0·07
			O	10·4	8·1	7·5	5·6	4·4	2·5
Defective Speech			T	0·03	0·07	0·1	...	0·04	...
			O	1·0	0·6	0·7	0·3	0·5	0·2
Heart and Circulation.	Heart Disease	Organic	T	0·1	0·2	0·03	0·1	0·1	0·2
			O	0·4	0·4	0·7	0·4	0·5	1·0
		Functional	T	0·2	0·1	0·09	0·1	0·04	0·1
			O	2·2	1·9	2·4	2·8	2·4	3·1
		Anæmia	T	0·6	0·4	0·4	0·3	0·3	0·4
			O	0·4	0·3	0·2	0·3	0·3	0·4
Lungs.		Bronchitis	T	1·6	1·4	0·7	0·6	0·4	0·3
			O	1·9	1·3	0·7	0·5	0·4	0·3
		Other Non-Tubercular Diseases	T	0·1	0·03	0·03	0·07	0·02	0·02
			O	1·2	1·1	1·2	0·8	0·7	0·5
Tuberculosis.	Pulmonary.	Definite	T	...	...	...	0·01	...	...
			O	...	...	...	0·03	0·02	...
		Suspected	T	0·02	...	...	...	...	...
			O	0·02	...	0·03	0·03	0·04	0·02
	Non-Pulmonary.	Glands	T	...	0·03	0·08	0·01	...	...
			O	0·06	0·07	0·05	0·04	0·02	0·02
		Bones and Joints	T	0·02	0·02	0·03	0·01	...	...
			O	0·05	0·02	0·02	...	0·04	0·04
		Skin	T	...	...	...	...	...	0·02
			O	...	...	...	...	...	...
		Other Forms	T	...	...	...	...	...	...
			O	0·03	0·05	0·03	0·04	0·02	...
Nervous System.		Epilepsy	T	...	0·02	...	...	...	0·05
			O	0·06	...	0·08	...	0·02	0·04
		Chorea	T	...	...	0·06	0·04	...	0·02
			O	0·06	0·02	0·1	0·06	0·02	0·05
		Other Conditions	T	...	0·02	0·02	...	0·02	...
			O	0·1	0·08	0·1	0·06	0·1	0·04
Deformities.		Rickets	T	0·2	0·2	0·03	0·06	0·02	0·02
			O	1·0	0·7	0·4	0·2	0·3	0·07
		Spinal Curvature	T	0·08	0·02	0·2	0·2	0·2	0·4
			O	0·1	0·2	0·3	0·6	0·4	0·4
		Other Forms	T	0·8	0·9	0·6	0·8	0·7	1·4
			O	1·9	2·0	2·0	2·2	2·4	3·2
Other Defects and Diseases			T	1·8	1·4	1·3	1·2	1·4	1·2
			O	3·3	2·3	3·0	2·6	3·1	2·4

(2) Specials.

				Boys.	Girls.
No Examined ....40,484...........				20527	19957
Children having Defects				14355	14160
Mental Condition.		Dull and Backward	T	13	3
			O	113	52
		Feeble-minded	T	13	7
			O	26	11
		Imbeciles	T	...	2
			O	5	2
		Idiots	T	...	...
			O	...	...
Uncleanliness.		Head	T	38	355
			O	32	406
		Body	T	10	13
			O	11	6
Teeth.		Four or more Carious	T	699	731
			O	398	374
		Sepsis	T	99	95
			O	3	3
Skin.	Ring-worm.	Scalp	T	40	23
			O	5	2
		Body	T	64	48
			O	7	4
		Scabies	T	230	244
			O	11	22
		Impetigo	T	843	596
			O	2	6
		Other Diseases .... (Non-Tubercular)	T	1183	1045
			O	62	64
Eye Diseases.		Blepharitis	T	200	199
			O	23	26
		Conjunctivitis	T	176	182
			O	17	16
		Keratitis	T	7	11
			O	1	...
		Corneal Opacities	T	4	4
			O	1	5
		Other Conditions	T	186	161
			O	18	26
		Defective Vision	T	614	703
			O	335	361
		Squint	T	202	159
			O	84	64
Ear Diseases.		Defective Hearing...............	T	128	124
			O	40	41
		Otitis Media	T	325	309
			O	18	15
		Other Ear Diseases	T	355	402
			O	22	38

				Boys.	Girls.
Nose and Throat.		Chronic Tonsillitis..................	T	504	565
			O	723	843
		Adenoids..................................	T	69	74
			O	49	47
		Chronic Tonsillitis and Adenoids	T	670	758
			O	175	183
		Other Conditions	T	531	543
			O	724	765
Enlarged Cervical Glands .... (Non-Tubercular)			T	157	167
			O	414	353
Defective Speech			T	17	9
			O	41	28
Heart and Circulation.	Heart Disease	Organic	T	22	38
			O	41	57
		Functional	T	17	29
			O	280	228
		Anæmia	T	123	172
			O	39	33
Lungs.		Bronchitis	T	272	245
			O	76	60
		Other Non-Tubercular Diseases.	T	47	46
			O	80	48
Tuberculosis.	Pulmonary.	Definite	T	1	...
			O	...	...
		Suspected	T	4	2
			O	12	5
	Non-Pulmonary.	Glands..........................	T	15	15
			O	10	10
		Bones and Joints	T	2	1
			O	3	3
		Skin............................	T	1	...
			O	...	1
		Other Forms	T	2	2
			O	3	4
Nervous System.		Epilepsy	T	8	5
			O	11	13
		Chorea................................	T	36	54
			O	32	15
		Other Conditions	T	37	35
			O	25	19
Deformities.		Rickets	T	15	4
			O	90	46
		Spinal Curvature	T	14	20
			O	18	23
		Other Forms	T	172	237
			O	144	169
Other Defects and Diseases...............			T	3318	2707
			O	600	592

(3) Re-Inspections.

The work of re-inspection is very important, and serves several purposes. Firstly, it enables a Medical Officer to discover whether or not the treatment recommended by him has been carried out; secondly, it gives him an opportunity of appraising the results of the treatment carried out in any particular case; thirdly, if treatment has not been carried out, it gives him an opportunity of making another representation as to the need for treatment; fourthly, an additional opportunity of seeing parents occurs; fifthly, cases which have previously been noted as requiring to be kept under observation are seen. Re-inspection of such children enables a Medical Officer to watch their progress, and to give advice as to treatment if this becomes indicated.

The number of Re-inspections in 1938 was 52,466.

A classification into age-groups or defect categories would serve no useful purpose and has, therefore, not been made.

REVIEW OF FINDINGS.

NUTRITION.

Nutrition has been described as the total well-being of the body and the normal functioning of all its parts. It should be regarded from the point of view of fruition and development.

The very use of the word " nutrition " is perhaps unfortunate since it suggests that the condition is one dependent essentially on feeding. A lack of food, *i.e.*, an economic cause, is often suggested as the prime factor, but frequently the real lack is one of *suitable* food and such things as sleep, fresh air, exercise and good home environment.

The clinical assessment of nutrition is based, in the words of the Chief Medical Officer of the Board of Education, upon "the general appearance, facies, carriage and posture and the condition of the membranes ; the tone and functioning of the muscular system and the amount of subcutaneous fat." The main issue is to assess the well-being of the child with emphasis upon " general impression " as opposed to integral signs of defect.

Discrepancy has been found between the assessments of the same children by different Medical Officers, and indeed, between assessments of the one child made by the same Medical Officer on two different occasions. The explanation is that examiners have no fixed criteria on which to base their estimates. Much depends, for example, on whether consideration is being paid to " present " or " past " nutrition, or " total " nutrition, which includes both. Broadly speaking, evidence of past malnutrition is shown in bony changes and deformities, whilst it is upon the state of the soft tissues—the texture of the skin, amount of fat, condition of the blood—that an assessment of " present " nutrition is based. The incidence where findings are based upon total nutrition will naturally be higher than when present nutrition only is the criterion.

To assess the general fitness of a community it is necessary that stock be taken of every aspect of departure from the normal physique, that is to say account must be taken of " total " nutrition and regard paid to the past history of illness and signs of previous malnutrition. On the other hand from the viewpoint of treatment, to improve the individual by the provision of school meals, for example, emphasis should be laid upon " present " nutrition.

" Mechanical " assessments have been made from measurements of height and weight, from arm girth, hip width and chest depth indices and other methods. Such measurements cannot of themselves be regarded as accurate representations of physique and development, nor is it reliable to compare findings in the individual case with group averages of growth and development.

In the present state of our knowledge it may be said that the only valuable way of assessing nutrition is from the estimate formed by a trained observer during a clinical examination. Measurements and mechanical means may serve for groups, but fail signally for the individual and it is only by application to the individual that any estimate becomes of value.

The method of classification used in Lancashire is a clinical one and in appraising the figures set out below it should be borne in mind that they are derived from the findings of some 20 Medical Officers, each working in a different part of the County.

91·3 per cent. of the children seen at routine inspections were in a satisfactory state of nutrition, and 8·7 per cent. were in an unsatisfactory state, the percentage in the latter category being slightly higher than that of last year, though it will be obvious from what has been said that no great significance can be attached to this increase. The figures compare favourably with the last available for England and Wales, which were 88·8 per cent. and 11·2 per cent. respectively. In more detail, in Lancashire 92·5 per cent. of the Entrants, 90·2 per cent. of the Intermediates, and 91·4 per cent. of the Leavers were in a satisfactory state of nutrition. The last available figures for England and Wales were 89·2 per cent., 87·0 per cent., and 89·6 per cent.

The incidence of subnormal nutrition still falls most heavily on the Intermediates. This is in keeping with findings throughout the Country. Girls show a higher percentage of satisfactory nutrition than boys and this is true of each group examined.

For the purposes of nutritional classification, children are divided into four categories :—(*a*) Excellent, (*b*) Normal, (*c*) Slightly sub-normal, (*d*) Bad.

The returns show that of 35,984 children examined at routine inspections in 1938, 3,819 fell into category (*a*), 29,029 into (*b*), 2,985 into (*c*) and 151 into (*d*).

In order that comparisons may readily be made with previous years the following tables and graph have been prepared. The figures are percentages.

Category (*a*).—*Excellent.*

Year.		No. Examined.	Entrants.	Intermediates.	Leavers.
Boys	1935	18,452	7·5	7·1	10·2
	1936	16,573	8·7	7·9	11·7
	1937	18,357	7·1	8·5	11·8
	1938	17,822	7·7	8·2	10·3
Girls	1935	18,025	9·9	10·5	14·5
	1936	16,363	10·6	12·4	13·9
	1937	17,905	9·6	11·8	14·7
	1938	18,162	11·1	12·3	14·5

Category (*b*).—*Normal.*

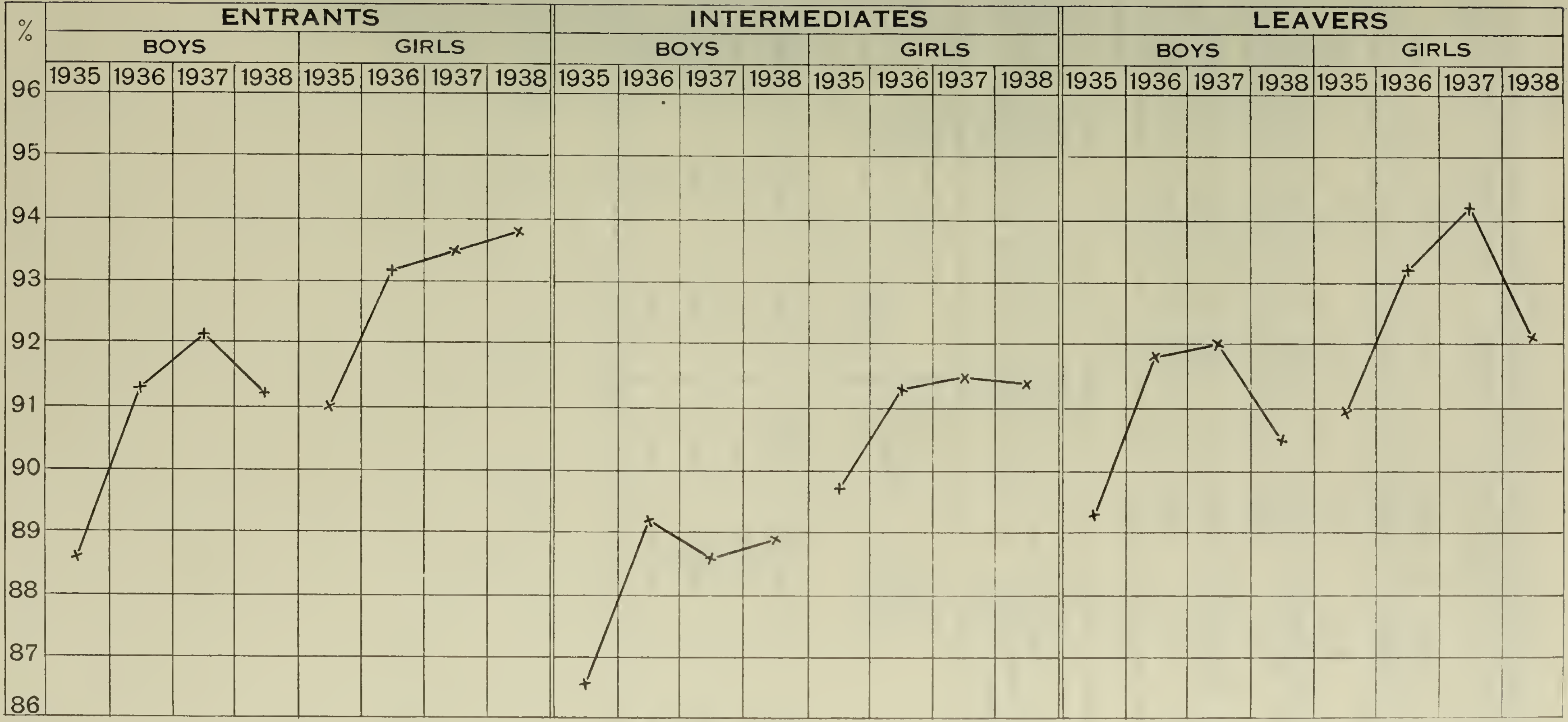
Year.		No. Examined.	Entrants.	Intermediates.	Leavers.
Boys	1935	18,452	81·1	79·5	79·1
	1936	16,573	82·6	81·3	80·1
	1937	18,357	85·0	80·1	80·2
	1938	17,822	83·6	80·7	80·2
Girls	1935	18,025	81·1	79·2	76·4
	1936	16,363	82·6	78·9	79·3
	1937	17,905	83·9	79·7	79·5
	1938	18,162	82·7	79·1	77·6

Category (*c*).—*Slightly Sub-normal.*

YEAR.		No. Examined.	Entrants.	Intermediates.	Leavers.
Boys	1935	18,452	10·8	12·6	10·3
	1936	16,573	8·2	10·2	7·7
	1937	18,357	7·5	11·0	7·6
	1938	17,822	8·4	10·5	9·2
Girls	1935	18,025	8·5	9·7	8·8
	1936	16,363	6·6	8·4	6·5
	1937	17,905	6·3	8·3	5·5
	1938	18,162	6·0	8·0	7·5

NUTRITION.—ROUTINE AGE GROUPS.

[Categories (a) and (b)—Satisfactory Nutrition,]



1935	88·6	91·0	86·6	89·7	89·3	90·9
1936	91·3	93·2	89·2	91·3	91·8	93·2
1937	92·1	93·5	88·6	91·5	92·0	94·2
1938	91·2	93·8	88·9	91·4	90·5	92·1

Category (d).—Bad.

YEAR.		No. Examined.	Entrants.	Intermediates.	Leavers.
Boys	1935	18,452	0·6	0·8	0·4
	1936	16,573	0·5	0·6	0·4
	1937	18,357	0·4	0·4	0·3
	1938	17,822	0·4	0·6	0·3
Girls	1935	18,025	0·5	0·6	0·3
	1936	16,363	0·2	0·3	0·2
	1937	17,905	0·2	0·2	0·3
	1938	18,162	0·2	0·6	0·3

The "Specials" show an improvement in the state of nutrition as compared with previous years. The following table sets out the position during the past four years :—

Year.	No. of "Specials" Examined	Nutrition Satisfactory.	Nutrition Unsatisfactory.		
			Slightly Sub-normal.	Bad.	Total.
		%	%	%	%
1935... ...	33,991	92·07	7·48	0·45	7·93
1936... ...	34,855	94·01	5·77	0·21	5·98
1937... ...	35,812	94·91	4·93	0·16	5·09
1938... ...	40,484	95·79	3·93	0·27	4·20

UNCLEANLINESS.

Heads.—The percentage of dirty heads in all routine cases, including both boys and girls, has slightly increased to 4·12. The largest percentage is found in the " Entrant " group of girls, where it is 7·7, as compared with 7·6 in the " Intermediates " and 6·6 in the " Leaver " groups.

Body.—There is a further decrease in the percentage of children found to have verminous infestation of the body at Routine Inspections, the percentage being 0·57. The percentage of girls with this condition is still much higher than that of the boys.

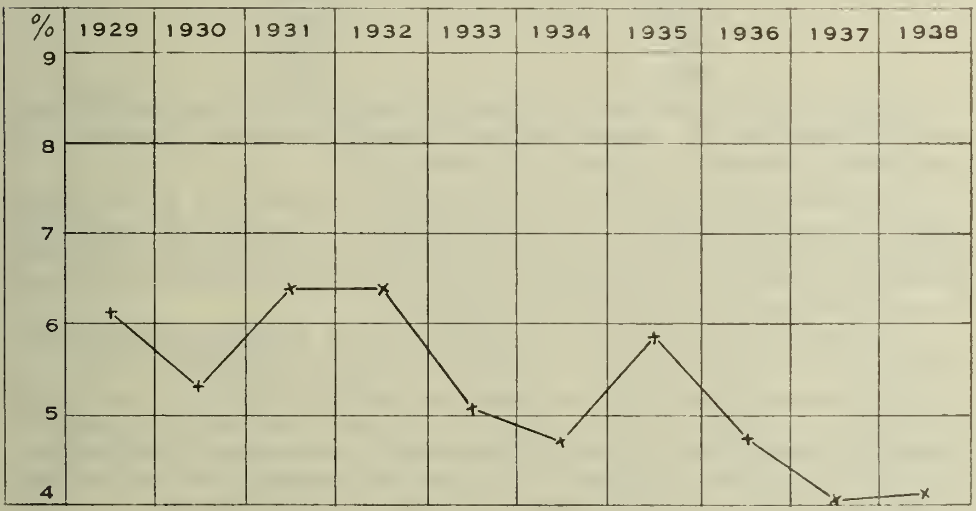
During the year Nurses made 204,009 examinations and found on 11,196 occasions children with verminous conditions. The number of examinations the previous year was 197,389 and the number found unclean was 9,733. 242 children were excluded from school under Article 20 (*b*) of the Code.

Cleanliness inspections still constitute a major part of the School Nurses' work, and the figures given above indicate that there must be no relaxation in the effort to secure clean heads and bodies among the school children.

The percentages for Unclean Heads and Bodies for the last 10 years are as follows :—

Year.	Heads.	Bodies.
1929	6·09	1·12
1930	5·27	1·37
1931	6·41	0·81
1932	6·41	0·99
1933	5·02	0·81
1934	4·72	0·64
1935	5·9	1·03
1936	4·75	0·75
1937	4·04	0·69
1938	4·12	0·57

UNCLEAN HEADS—ROUTINE CASES



Ringworm.

Ringworm of the scalp shows an increase to 0·025 per cent. of routines examined, or more than double the percentage found the previous year. The cases numbered 9.

At special inspections a further 70 cases were found—45 boys and 25 girls—bringing the total to 79, or 13 more than in 1937.

Ringworm of the body was found in 127 cases in all—4 at routine inspections and 123 at special examinations.

The figures for the last 10 years are set out in percentages in the following table :—

Year.	Head.	Body.
1929	0·157	0·071
1930	0·09	0·03
1931	0·06	0·08
1932	0·051	0·057
1933	0·043	0·023
1934	0·033	0·003
1935	0·016	0·024
1936	0·039	0·027
1937	0·011	0·04
1938	0·025	0·011

Scabies.

In Lancashire for the past four years there has been an increase in the number of cases of scabies found at Routine Inspections, and there has been a similar trend throughout the country.

The percentages for " Routine " cases in the last 10 years are :—

Year.	%
1929	0·07
1930	0·066
1931	0·08
1932	0·06
1933	0·058
1934	0·058
1935	0·079
1936	0·081
1937	0·093
1938	0·172

During 1938, 569 cases were discovered, of whom 263 were boys and 306 were girls. Of these cases, 137 occurred within the area of one Sanitary Authority. In most instances treatment is carried out at school clinics.

The disease, commonly known as " the itch," is caused by a species of mite which burrows into the skin to lay its eggs, exuding at the same time a secretion which causes intense irritation to the infected person. It is during the night when the body is warm in bed that the mites are most active, and hence much loss of sleep is caused besides sores and local lesions in the skin.

The disease is transmitted by close contact and by clothing, particularly bed-clothing. Bed-clothing may remain infested for as long as a fortnight.

The treatment consists firstly in killing the mites and eggs in the skin by the inunction of a sarcopticide such as sulphur ointment. This inunction should be preceded by scrubbing with soft soap and hot water in order to open up the burrows. Secondly, it is necessary to disinfect all clothing and bedding which has been used by the infected person, and in this respect it is essential that a disinfectant be added to the water.

The disease is very liable to affect many or all of the members of a household and it is important when a child is found to be suffering from scabies that enquiries be made at the home so that any other members of the family may be referred for treatment at the same time, otherwise the child may become re-infested after treatment.

There is no doubt that the effective way to destroy all the parasites in clothing and bedding is by heat, and local sanitary authorities have, in many cases, co-operated by treating clothing and bedding in heat disinfestors.

Failure to cure the disease is due to ineffective treatment, the patient usually re-infecting himself by contact with infected clothing.

Re-infestation is very often found amongst chronically dirty families, or where there are no bathing facilities in the homes, and in some areas of the County it is becoming desirable that cleansing stations should be set up.

IMPETIGO.

The percentage of children found to be suffering from impetigo at routine inspections in 1938 was 0·56.

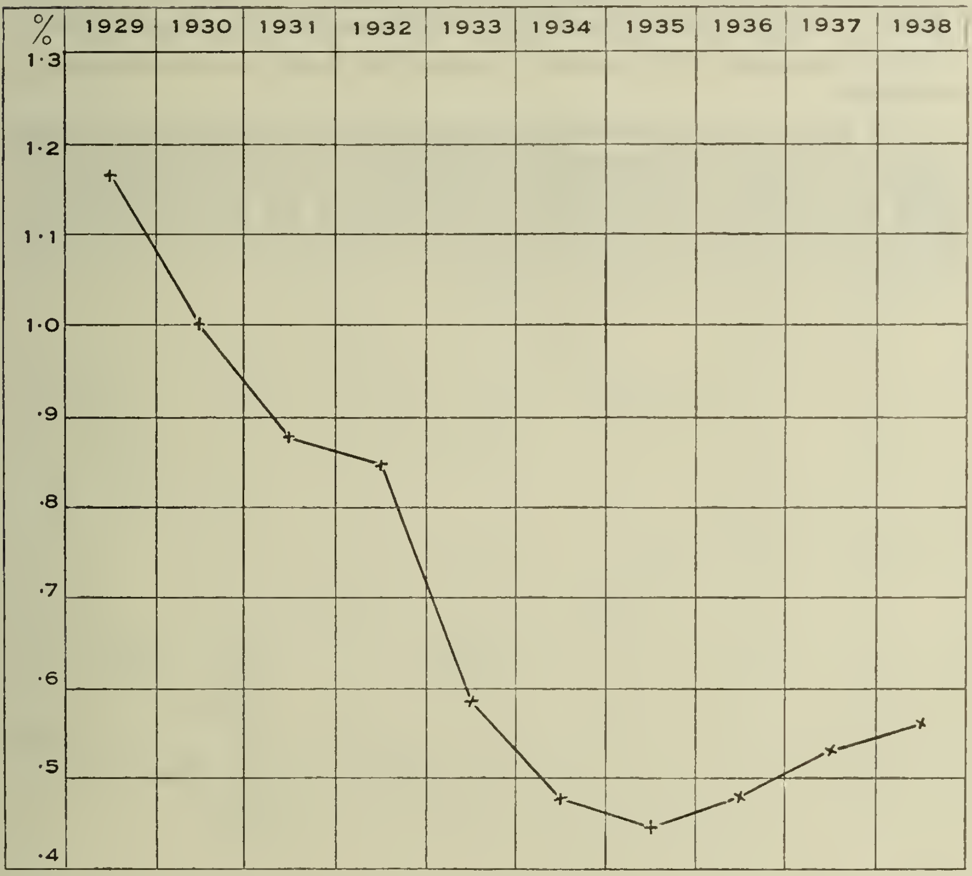
The cases numbered 201, of whom 130 were boys and 71 girls.

At special examinations a further 1,447 cases were seen, making a total of 1,648.

The percentages amongst all " Routine " cases for the last 10 years are :—

Year.	%
1929	1·17
1930	1·0
1931	0·88
1932	0·85
1933	0·59
1934	0·48
1935	0·45
1936	0·48
1937	0·53
1938	0·56

IMPETIGO—ROUTINE CASES



Other Skin Diseases (Non-Tubercular) were found in 1·98 per cent. of children at routine inspections in 1938, compared with 1·51 per cent. in 1937, and 2,354 cases were seen at special inspections.

DEFECTIVE VISION.

The percentage of entrants found to have defective vision was 0·73. These children are sometimes difficult to examine since they are not familiar with the letters on the test types and therefore the figure obtained is only approximate.

In the routine inspections of the intermediates and leavers 750 boys and 910 girls were referred for treatment for defective vision. Most of these required spectacles; 776 boys and 939 girls were put down for observation, some having already obtained glasses that did not require changing, whilst in others the defect was not sufficiently marked to require immediate treatment.

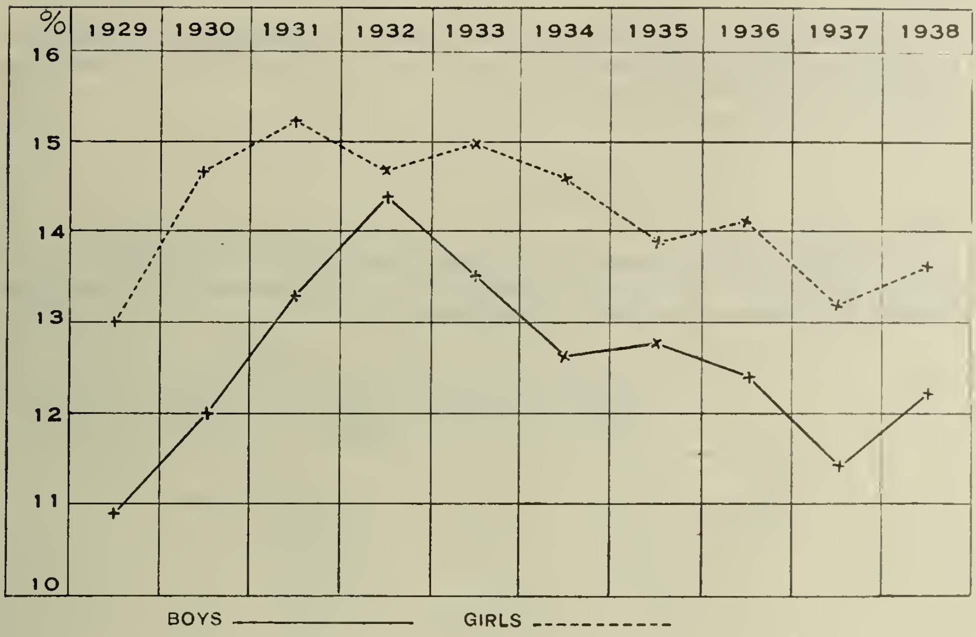
The proportion of routine cases needing treatment is greatest in the "Leaver" class of girls, being 8·1 per cent. of those examined, and is least in the "Intermediate" group of boys, where 6·4 per cent. needed treatment.

The value of periodic testing of the visual acuity cannot be too strongly emphasised, and it is highly desirable that all children in school should be examined every year with a test type by the School Nurse. In this way the early recognition of errors of refraction and institution of treatment would be ensured with particular benefit to the short-sighted child.

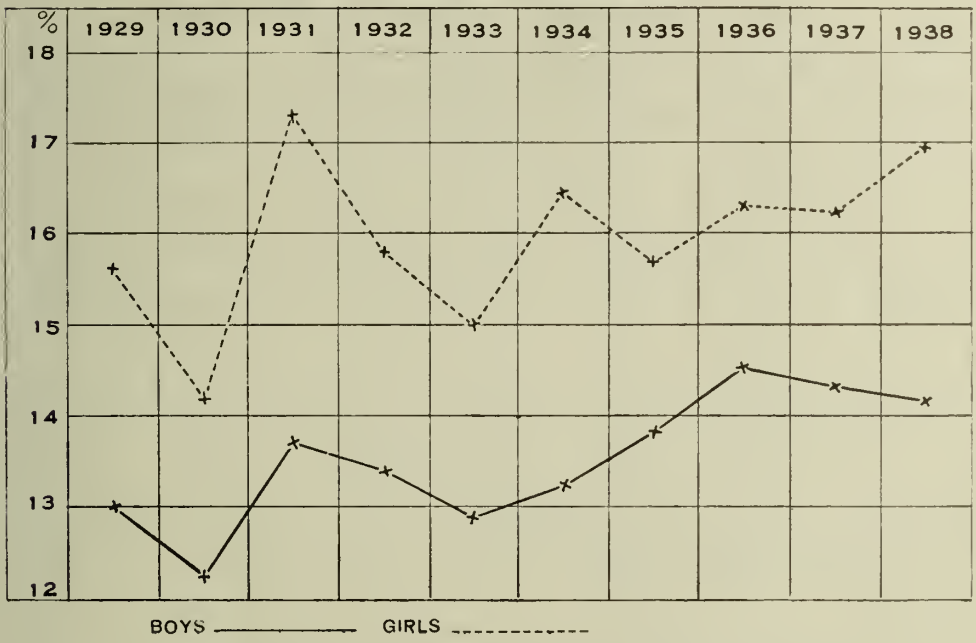
Supervision of all the children suffering from defective vision is maintained at medical re-inspections, and those for whom glasses have been prescribed are referred to the Ophthalmic Surgeon for re-examination when the occasion arises.

The co-operation of the teachers in seeing that glasses are worn regularly is appreciated.

It is difficult to account for the increasing incidence of defective vision in the older girls. There is no corresponding increase in the amount of close work done, such as fine sewing, and standards of school lighting are steadily improving. It should be remembered, however, that the majority of the children recorded as suffering from defective vision in the "Leaver" group are not new cases, but have been discovered and treated at an earlier age.



DEFECTIVE VISION—% OF INTERMEDIATES FOR T. & O



DEFECTIVE VISION—% OF LEAVERS FOR T. & O.

SQUINT.

This condition was found to be present in 621 of the 35,984 children examined at routine inspections; 314 were boys and 307 were girls. In 1937 Squint was found in 614 of 36,262 children examined.

VISUAL ACUITY.

The following table summarises the visual acuity of all "Intermediates," *i.e.*, children aged eight years, and all "Leavers," *i.e.*, children aged 12 or over, as determined by means of the Snellen Test Types :—

		BOYS.		GIRLS.	
		Intermediates.	Leavers.	Intermediates.	Leavers.
No. Examined		6,562	5,031	6,681	5,469
6	R.	85·4	84·9	84·0	82·2
	L.	84·1	84·5	82·4	81·1
9	R.	7·0	6·2	7·8	7·0
	L.	7·4	6·3	8·8	7·2
12	R.	2·8	3·0	3·3	3·7
	L.	3·3	3·1	3·3	3·5
18	R.	1·6	2·4	2·3	3·0
	L.	2·1	2·4	2·3	3·2
24	R.	1·1	1·4	1·3	1·9
	L.	1·1	1·4	1·5	2·4
36	R.	1·1	1·1	0·6	1·3
	L.	1·0	1·2	1·0	1·3
60	R.	0·6	0·7	0·6	0·7
	L.	0·6	0·7	0·5	1·0
0	R.	0·3	0·3	0·1	0·2
	L.	0·4	0·4	0·2	0·3

OTITIS MEDIA.

Children particularly are liable to suffer from otitis media and it is now known that its incidence is greatest in the very young. There are several factors which predispose children to the disease, the most important being repeated colds and a chronic catarrhal condition of the nasopharynx sometimes associated with infected adenoids. Poor environmental conditions with overcrowding and lack of fresh air and sunlight aid in the production of such infections. Other causes are the occurrence mainly amongst children of scarlet fever and measles.

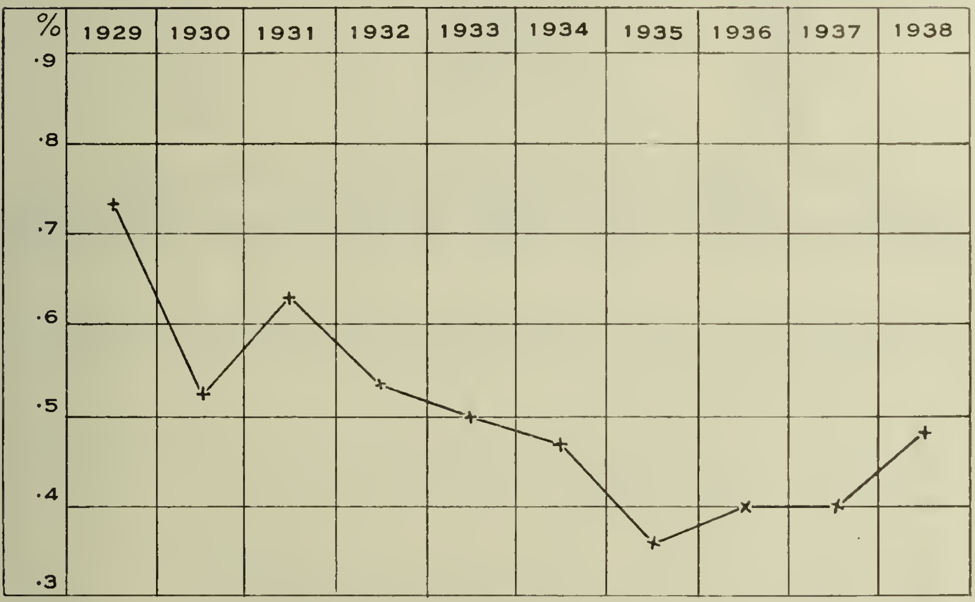
It is desirable to emphasise the fact that no examination of a child is complete without inspection of the ears and that this should be made with an auriscope. By this means, an accurate picture of the state of the ear will be obtained, and, in addition, on occasions, the cause of an apparently obscure illness in a child will be discovered.

The cases discovered at routine inspections numbered 174, and 667 were seen at special examinations, chiefly at the School Clinics.

The percentages of " Routine " cases during the last 10 years are :—

Year.	%
1929	0·73
1930	0·52
1931	0·63
1932	0·53
1933	0·50
1934	0·47
1935	0·36
1936	0·40
1937	0·40
1938	0·48

OTITIS MEDIA—ROUTINE CASES



Prevention.

Measures which should be taken to prevent otitis media include :—

(1) The encouragement of a hygienic condition of the nose and throat. The daily practice of handkerchief drill and breathing exercises in school are valuable means to this end.

(2) Efforts towards attaining an increase in the general powers of resistance. These include adjustments of environmental and dietetic conditions.

Local Treatment.

The dry method of treatment including the use of boracic acid powder impregnated with a small amount of iodine has proved efficacious in bringing about a cure in a large number of cases. During the year 10 cases of chronic otorrhœa were referred for mastoidectomy.

Chronic Tonsillitis and Adenoids.

The percentage of routine cases referred for treatment is higher than that of last year and there is an increase in the percentage of children to be kept under observation.

Altogether 1,342 children were found to require treatment for chronic tonsillitis and/or adenoids, of whom half were in the "Entrant" group; those to be kept under observation numbered 3,791, and nearly half were also in the "Entrant" group.

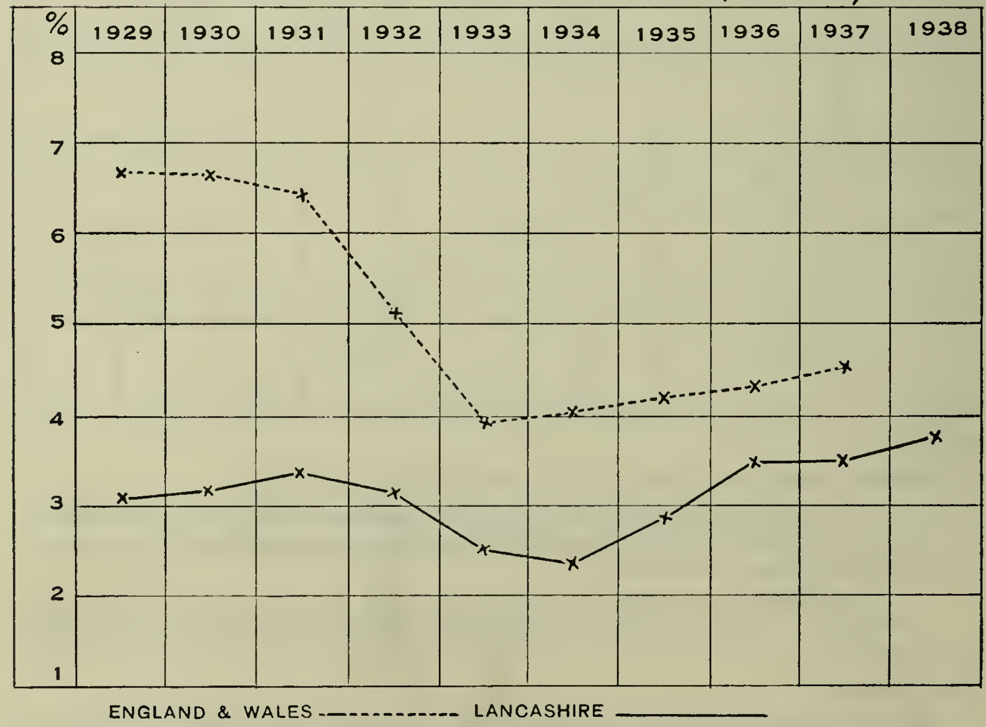
It frequently happens that inflammatory conditions and overgrowth of the lymphoid tissue commence during or after the commoner infectious ailments of early childhood and the results are seen when the child is first examined in school.

The point has repeatedly been made that it is only when conditions prejudicial to the child's health, such as ear disease, enlarged glands in the neck, defects of speech, breathing and hearing, frequent colds and catarrh, etc., are being caused by this chronically inflamed or overgrown tissue that operation is recommended, and then only after other methods have been given a fair trial or hold out no hope of a permanent cure of the condition.

That this has been the practice in Lancashire is suggested by a comparison of the figures for treatment of tonsils and adenoids with those for England and Wales during the past 10 years represented in graph form below.

Year.	England and Wales. Treatment.	Lancashire. Treatment.
1929	6·68	3·05
1930	6·65	3·16
1931	6·46	3·38
1932	5·12	3·14
1933	3·95	2·51
1934	4·02	2·34
1935	4·22	2·89
1936	4·35	3·53
1937	4·56	3·52
1938	—	3·73

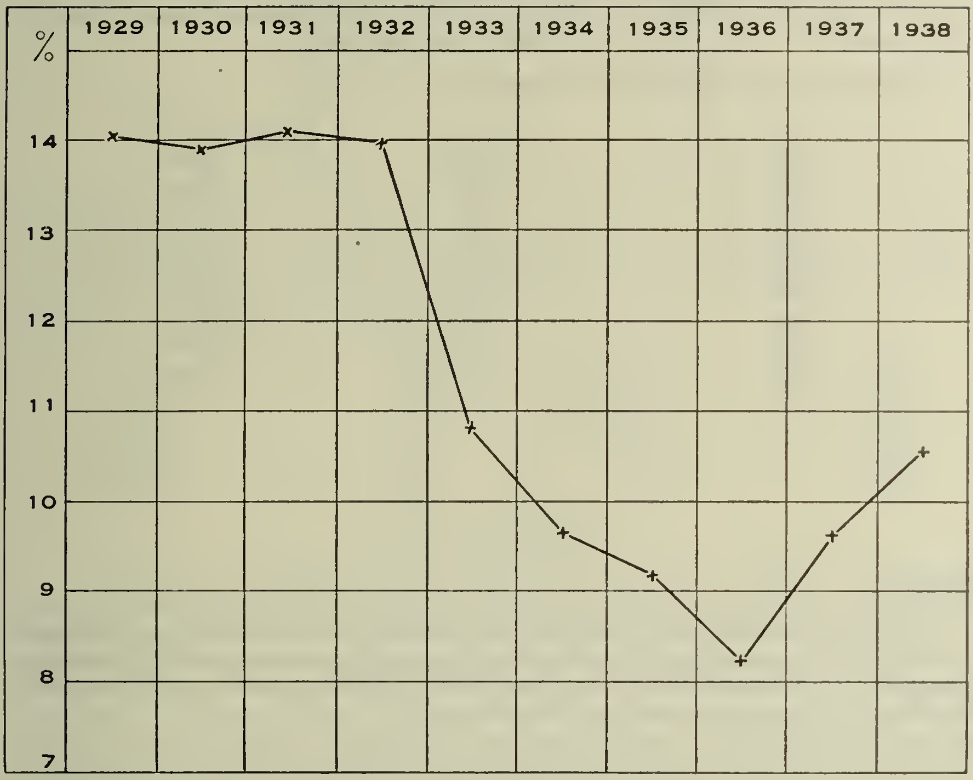
CHRONIC TONSILLITIS AND ADENOIDS—ROUTINE CASES (TREATMENT)



The table and graph given on the next page set out in percentage form the number of cases of chronic tonsillitis and adenoids referred for observation during the last 10 years.

Year.	Observation.
1929	14·05
1930	13·94
1931	14·11
1932	13·99
1933	10·84
1934	9·69
1935	9·15
1936	8·24
1937	9·67
1938	10·54

CHRONIC TONSILLITIS AND ADENOIDS—ROUTINE CASES (OBSERVATION)



Heart Disease.

It is usual to separate the functional disorders from the organic diseases of the heart. In children especially disturbances in the heart may be due to the action of the nervous system. Nevertheless, the differentiation between what is merely functional and what is truly organic is not always easy to make. An apparently functional disorder may lead to actual cardiac disease. It is important, therefore, that all cases of cardiac abnormality should be kept under observation.

In the routine groups 45 cases of organic heart disease and 38 of functional heart disease were noted as requiring treatment. There were 207 cases of organic heart disease and 885 of functional heart disorder that were noted as needing to be kept under observation.

In some of these cases restriction is required in respect of the forms of physical exercise that may be safely undertaken, and much valuable advice is given to parents and teachers as a result of the inspection of such children.

The percentages for the last 10 years are :—

Year.	Organic.	Functional.
1929	0·69	2·24
1930	0·50	2·92
1931	0·61	2·69
1932	0·58	2·84
1933	0·61	3·31
1934	0·52	2·83
1935	0·53	2·78
1936	0·51	3·04
1937	0·58	2·43
1938	0·70	2·57

Rickets.

During this century there has been a great decline in the incidence of rickets. For the first few years of school medical inspection in Lancashire a rachitic condition was found in approximately 3·5 per cent. of the children examined. For the last few years the figure has been about 0·5 per cent.

The decline may be attributed to the fact that the fundamental causes of rickets are now known, and that appropriate steps—prophylactic and therapeutic—are now taken. Parents have been taught the importance of sunshine and suitable diet in the prevention of the disease.

In Lancashire in 1938 only 30 cases of rickets were noted among the routine groups as requiring treatment. Twenty-two of these were in the "Entrant" group.

The percentages for the last 10 years are :—

Year.	%
1929	0·85
1930	0·78
1931	0·62
1932	0·50
1933	0·64
1934	0·34
1935	0·45
1936	0·54
1937	0·50
1938	0·53

TUBERCULOSIS.

Four definite cases and nine suspected cases of pulmonary tuberculosis were discovered in 1938 during the course of routine examinations, whilst at special inspections one definite case and twenty-three suspected cases were found.

All contacts of known cases of tuberculosis are kept under supervision and re-examined at each school re-inspection. The Consultant Tuberculosis Officers keep the School Medical Officers fully informed where there are child contacts of the disease.

In respect of non-pulmonary tuberculosis there has been a decrease in the number of cases found during routine examinations, 50 (0·139 per cent.) in 1938 as against 72 (0·198 per cent.) in 1937. The following table shows the position in each of the last 10 years :—

Year.	%
1929	0·192
1930	0·129
1931	0·185
1932	0·110
1933	0·145
1934	0·110
1935	0·096
1936	0 115
1937	0·198
1938	0·139

During 1938, 72 cases of non-pulmonary tuberculosis were discovered at special inspections.

The table below sets out for the years 1933-1938 the number of children suffering from non-pulmonary tuberculosis on the registers of the tuberculosis dispensaries in the *whole* Administrative County :—

	0-5 years.	5-15 years.	Total.
1933	173	1,227	1,400
1934	161	1,187	1,348
1935	172	1,103	1,275
1936	181	1,111	1,292
1937	160	1,116	1,276
1938	197	1,133	1,330

FOLLOWING-UP.

This activity, entailing visits to the homes, is undertaken to ensure that children for whom treatment has been recommended as a result of inspections receive it as soon as possible. Most of this work is undertaken by the School Nurses, and is especially valuable where parents are dilatory or disinclined to carry out treatment. At these Home Visits advice is also given as to the best means of obtaining such treatment. During the year 1938, the Nurses, as School Nurses, paid 12,541 visits to homes, and also made 204,009 examinations of school children in school, paying 4,342 visits to the schools, in addition to the visits paid to, and the work done in the schools when they assisted the Medical Officers at Routine Inspections.

It is pleasing to report that year by year parents grow more appreciative of what is being done through the School Medical Service and show an increasing desire to obtain and follow out advice.

ARRANGEMENTS FOR TREATMENT.

It is evident from the findings of Medical Inspection that treatment is required for a great variety of conditions. For some of these the Education Committee itself provides treatment ; for others it make arrangements with Hospitals, Infirmaries or other Treatment Centres. Most of the treatment carried out by the Education Committee itself takes place at School Clinics.

Before treatment is carried out several rules are observed. Firstly, it is the practice of the Medical Staff to respect the domain of the private practitioner, and children discovered at School Medical Inspection or at the School Clinic suffering from more than minor defects are referred to their own doctor for his consideration. The referring of children in this way frequently leads to an interchange of opinions which must necessarily be in the best interests of the child. Treatment is carried out by the children's own doctor wherever possible, but if arrangements cannot be made in this way, or are not made within a month, the cases are treated either at a School Clinic or at a Hospital with which the Education Committee has made arrangements. Secondly, parents contribute according to their means. There is an exception in the case of the treatment of minor ailments and dental defects. For these the parents pay a nominal sum only, and in necessitous cases no charge is made. Thirdly, the consent, in writing, of a parent or guardian is obtained before treatment of any kind is given.

A list of the School Clinics and the forms of treatment undertaken is included in this Report. The establishment of new School Clinics will be continued until such a time as the area for which the County Council is responsible is adequately served. At the present time combined School Clinics and Child Welfare Centres are being erected in various townships.

TREATMENT AT COUNTY COUNCIL CLINICS.

The following is a list of the School Clinics open for treatment at the time of going to press. The kind of work which is undertaken in each is shown.

Township.	Days and Times of Opening.		Nature of work undertaken.	Remarks.
Ashton-in-Makerfield " Ravenswood," Old Road. *Telephone, Ashton-in-Makerfield 7221.*	Mon.	a.m. & p.m.	Dental	
		a.m.	Orthopædic	Surgeon attends first Monday in each month only.
	Tues.	a.m.	Minor ailments	
	Wed.	a.m.	Ophthalmic	
	Thurs.	p.m.	Minor ailments	Nurse only. Re-dressings.
		a.m. & p.m.	Dental	
Ashton-under-Lyne (*a*) School Clinic, 12, Water St.	Fri.	a.m. & p.m.	Orthopædic	Surgeon attends first Friday (a.m.) in each month only.
Ashton-under-Lyne (*b*) District Infirmary.	Mon. Tues. Wed. Thurs. Fri.	p.m.	Artificial light	Doctor attends Tuesday and Friday only.
Atherton Alder House. *Telephone, Atherton 392.*	Mon.	p.m.	Artificial light	
		p.m.	Minor ailments	Nurse only. Re-dressings.
	Tues.	a.m. & p.m.	Dental	
		a.m.	Ophthalmic	
	Thurs.	a.m.	Minor ailments	
		a.m.	Artificial light	
	Fri.	a.m. & p.m.	Dental	
Audenshaw " Westernlea," Denton Road. *Telephone, Denton 2312.*	Mon.	a.m.	Minor ailments	
	Tues.	a.m. & p.m.	Dental	
	Wed.	a.m.	Ophthalmic	Open alternate weeks only.
	Thurs.	a.m.	Minor ailments	Nurse only. Re-dressings.
		a.m. & p.m.	Dental	
	Fri.	a.m. & p.m.	Dental	
Bamber Bridge School Lane. *Telephone, Bamber Bridge 85171.*	Mon.	a.m.	Minor ailments	
		a.m. & p.m.	Dental	
	Tues.	p.m.	Ophthalmic	First and third Tuesdays in each month only.
	Wed.	a.m & p.m.	Dental	Second and fourth Wednesdays. Open (p.m.) only.
	Thurs.	a.m.	Minor ailments	Nurse only. Re-dressings.
	Fri.	a.m. & p.m.	Dental	
Banks Gravel Farm, Gravel Lane. *Telephone, Southport 87434.*	Wed.	a.m.	Minor ailments	Alternate weeks only.
	Fri.	a.m. & p.m.	Dental	
Blackburn Old Post Office Buildings, Lord Street.	Tues.	p.m.	Dental	
	Wed.	p.m.	Dental	
	Fri.	p.m.	Inspection	Open first Friday in each month, only.
Bromley Cross Birtenshaw Methodist Sunday School.	Tues.	a.m.	Minor ailments	Alternate weeks.
	Tues.	a.m.	Minor ailments	Nurse only. Re-dressings. Alternate weeks.

Township.	Days and Times of Opening.		Nature of work undertaken.	Remarks.
Burnley School Clinic, Old Technical School, Elizabeth Street.	Thurs.	p.m.	Orthopædic	Surgeon attends second and fourth Thursdays in each month only.
Carnforth 21, Market Street. *Telephone, Carnforth 78.*	Mon.	a.m.	Minor ailments	
	Wed.	a.m. & p.m.	Dental	
		a.m.	Ophthalmic	Open monthly. Date arranged locally.
	Fri.	1-30—2 p.m.	Minor ailments	Nurse only. Re-dressings.
Chadderton Town Hall. *Telephone, Oldham (Main) 3614.*	Mon.	a.m. & p.m.	Orthopædic	Surgeon attends third Monday (p.m.) in each month only.
	Fri.	p.m.	Orthopædic	Surgeon attends first Friday in each month only.
Chorley (*a*) 20, St. Thomas' Road. *Telephone, Chorley 2496.*	Mon.	a.m.	Minor ailments	Nurse only. Re-dressings.
	Tues.	a.m. & p.m.	Dental	
	Wed.	a.m.	Ophthalmic	Open alternate weeks only.
	Thurs.	a.m.	Minor ailments	
		a.m. & p.m.	Dental	
Chorley (*b*) 2 & 4, St. Thomas' Square.	Mon. Wed. Fri.	2—3 p.m. Boys 3—4 p.m. Girls	Artificial light	
Crompton East Crompton Church Institute. *Telephone, Shaw 7114.*	Mon.	a.m.	Ophthalmic	Open alternate weeks only.
		a.m. & p.m.	Dental	
	Tues.	a.m.	Minor ailments	Nurse only. Re-dressings.
	Wed.	a.m. & p.m.	Dental	
	Fri.	a.m.	Minor ailments	
Dalton-in-Furness Carnegie Library, Nelson Street. *Telephone, Dalton 34.*	Tues.	a.m.	Minor ailments	Nurse only. Re-dressings.
	Wed.	a.m.	Ophthalmic	Open alternate weeks only.
	Thurs.	a.m.	Minor ailments	
	Fri.	a.m. & p.m.	Dental	
Darwen Maternity and Child Welfare Centre, Bolton Road.	Wed.	a.m. & p.m.	Orthopædic	Surgeon attends third Wednesday (p.m.) in each month only.
Davyhulme "The Moorlands," Cornhill Road, Davyhulme. *Telephone, Urmston 2820.*	Mon.	a.m.	Minor ailments...	
	Tues.	a.m. & p.m.	Dental	
	Wed.	a.m. & p.m.	Dental	Open alternate weeks only.
	Thurs.	p.m.	Minor ailments	Nurse only. Re-dressings.
	Fri.	a.m. & p.m.	Dental	
		a.m.	Ophthalmic	Open alternate weeks only.
Droylsden "Morningside," Fairfield Avenue. *Telephone, Droylsden 1334.*	Mon.	a.m. & p.m.	Dental	
	Tues.	a.m.	Minor ailments	
	Wed.	a.m.	Ophthalmic	Open alternate weeks only.
		a.m. & p.m.	Dental	
	Thurs.	a.m.	Minor ailments	Nurse only. Re-dressings.
Earlestown "The Gables," Crow Lane West. *Telephone, Newton-le-Willows 3175.*	Mon.	a.m.	Ophthalmic	Alternate weeks only.
		a.m. & p.m.	Dental	
	Tues.	a.m. & p.m.	Dental	
		a.m.	Orthopædic	Surgeon attends first Tuesday alternate months.
	Wed.	a.m.	Minor ailments	Nurse only. Re-dressings.
		a.m. & p.m.	Dental	
	Thurs.	a.m. & p.m.	Dental	
	Fri.	a.m.	Minor ailments	

Township.	Days and Times of Opening.		Nature of work undertaken.	Remarks.
Failsworth Firs Hall, Oldham Road. *Telephone, Failsworth 1013.*	Mon.	a.m.	Ophthalmic	Open alternate weeks only.
		p.m.	Minor ailments	Nurse only. Re-dressings.
	Tues.	a.m. & p.m.	Dental	
	Wed.	a.m.	Minor ailments	
	Thurs.	a.m. & p.m.	Dental	
	Fri.	a.m. & p.m.	Dental	
Fleetwood Ribble Road. *Telephone, Fleetwood 699.*	Mon.	a.m. & p.m.	Dental	
	Tues.	a.m.	Minor ailments	
	Wed.	a.m.	Ophthalmic	Open third Wednesday in each month only.
	Thurs.	a.m.	Minor ailments	
	Fri.	a.m. & p.m.	Dental	
		a.m. & p.m.	Orthopædic	Surgeon attends third Friday in each month only.
		a.m.	Ophthalmic	First, second and fourth Fridays in each month only.
Garstang Oddfellows Hall.	Thurs.	1 p.m.—2 p.m.	Inspection	
Haydock Station Road. *Telephone, St. Helens 3453.*	Mon.	a.m.	Minor ailments	Nurse only. Re-dressings.
		p.m.	Orthopædic	Open alternate weeks. Nurse only.
	Tues.	a.m.	Orthopædic	Open first Tuesday alternate months only.
	Wed.	a.m.	Minor ailments	
	Thurs.	a.m.	Ophthalmic	Open alternate weeks only.
	Fri.	a.m. & p.m.	Dental	
Horwich Jones Street. *Telephone, Horwich 341.*	Mon.	a.m.	Minor ailments	Nurse only. Re-dressings.
		p.m.	Dental	
	Tues.	a.m. & p.m.	Dental	
		a.m.	Artificial light	
	Wed.	a.m.	Ophthalmic	Second and fourth Wednesdays in each month
		a.m.	Orthopædic	Open first and fourth Wednesday in each month. Surgeon attends first Wednesday only.
	Thurs.	p.m.	Dental	
	Fri.	a.m.	Minor ailments	
		p.m.	Dental	
	Sat.	a.m.	Artificial light	
Huyton (*a*) Methodist Church, East Liverpool Road	Tues.	a.m.	Minor ailments	Nurse only. Re-dressings.
	Thurs.	a.m.	Minor ailments	
Huyton (*b*) Derby Road. *Telephone, Huyton 734.*	Mon.	a.m. & p.m.	Dental.	
		a.m.	Ophthalmic	
	Tues.	a.m.	Minor ailments	
		a.m. & p.m.	Dental	
	Wed.	a.m. & p.m.	Dental	
	Thurs.	a.m. & p.m.	Dental	
		a.m.	Minor ailments	Nurse only, Re-dressings.
	Fri.	a.m. & p.m.	Dental	

Township.	Days and Times of Opening.		Nature of work undertaken.	Remarks.
Irlam Longfield Lodge, Cadishead. *Telephone, Irlam 196.*	Mon.	a.m. & p.m.	Dental	
	Tues.	a.m.	Minor ailments	
	Wed.	a.m. & p.m.	Dental	Open alternate weeks only.
	Thurs.	a.m.	Ophthalmic	Open alternate weeks only.
		p.m.	Orthopædic	Surgeon attends third Thursday in each month only.
		a.m. & p.m.	Dental	
	Fri.	a.m.	Minor ailments	Nurse only. Re-dressings.
Kearsley The Mount, Station Road. *Telephone, Farnworth 621.*	Mon.	a.m.	Ophthalmic	
	Tues.	a.m. & p.m.	Dental	
		a.m.	Orthopædic	Nurse only.
		p.m.	Minor ailments	Nurse only. Re-dressings.
	Wed.	p.m.	Orthopædic	Open first Wednesday in each month only.
	Thurs.	a.m.	Minor ailments	
	Fri.	a.m. & p.m.	Dental	
Kirkham Mellor Road.	Mon.	a.m.	Minor ailments	Nurse only. Re-dressings.
	Thurs.	a.m.	Minor ailments	
Lancaster Thurnham House	Tues.	a.m.	Orthopædic	Surgeon attends third Tuesday, alternate months. Nurse attends alternate Tuesdays.
	Thurs.	a.m.	Ophthalmic	Open by arrangement when sufficient number of cases for treatment. Day changed to Monday during summer months.
Leyland 5/7, Somerset Road. *Telephone, Leyland 81173.*	Mon.	a.m.	Minor ailments	Nurse only. Re-dressings.
		p.m.	Orthopædic	Surgeon attends first Monday in each month only.
	Tues.	a.m. & p.m.	Dental	
	Wed.	a.m.	Ophthalmic	
		a.m. & p.m.	Dental	
	Thurs.	a.m.	Minor ailments	
	Fri.	a.m. & p.m.	Dental	
Litherland 32, Linacre Road. *Telephone, Waterloo 879.*	Mon.	a.m. & p.m.	Dental	
	Tues.	a.m.	Minor ailments	
		p.m.	Dental	
	Wed.	a.m. & p.m.	Dental	
	Thurs.	a.m.	Ophthalmic	
		a.m.	Orthopædic	Surgeon attends second Thursday in each month only.
		p.m.	Dental	
	Fri.	a.m.	Minor ailments	Nurse only. Re-dressings.
Littleborough " Rockley House." *Telephone, Littleborough 8100.*	Mon.	a.m. & p.m.	Dental	
		a.m.	Minor ailments	Nurse only. Re-dressings.
	Wed.	a.m.	Ophthalmic	Open alternate weeks only.
	Thurs.	a.m.	Minor ailments	

Township.	Days and Times of Opening.		Nature of work undertaken.	Remarks.
Longridge 26, Kestor Lane. *Telephone, Longridge 85.*	Mon.	a.m.	Minor ailments	
		a.m. & p.m.	Dental	
	Wed.	a.m.	Ophthalmic	Open alternate weeks only.
	Thurs.	a.m.	Minor ailments	Nurse only. Re-dressings.
		a.m. & p.m.	Dental	
Milnrow 1, Wesley Street. *Telephone, Milnrow 5331.*	Tues.	a.m. & p.m.	Dental	
		a.m.	Minor ailments	
	Fri.	a.m.	Minor ailments	Nurse only. Re-dressings.
Nelson (*a*) School Clinic, Carr Road.	Fri.	p.m.	Orthopædic	Surgeon attends third Friday (a.m.) in each month only.
Nelson (*b*) 259, Manchester Road, *Telephone, Nelson 1197.*	Tues.	a.m. & p.m.	Dental	
	Wed.	p.m.	Ophthalmic	Open first and third Wednesday in each month only.
	Thurs.	a.m.	Minor ailments	
	Fri.	a.m. & p.m.	Dental	
Ormskirk (*a*) General Hospital. *Telephone, Ormskirk 88.*	Mon.	a.m.	Minor ailments	Medical Officer attends alternate weeks only. (Re-dressings by Hospital staff each day).
	Fri.	a.m. & p.m.	Dental	
Ormskirk (*b*) Church House, Church Street.	Tues.	p.m.	Orthopædic	Nurse only, except second Tuesday in each month.
	Fri.	a.m.	Orthopædic	Open first Friday in each month only.
Orrell 299–301, Orrell Road. *Telephone, Upholland 92.*	Tues.	a.m.	Minor ailments	Nurse only. Re-dressings.
		a.m. & p.m.	Dental	
	Wed.	a.m. & p.m.	Dental	
	Thurs.	a.m.	Minor ailments	
	Fri.	a.m.	Ophthalmic	
Oswaldtwistle "Barnfield House," *Telephone, Accrington 3061.*	Mon.	a.m.	Minor ailments	Nurse only. Re-dressings.
	Tues.	a.m.	Ophthalmic	Open alternate weeks only.
	Wed.	a.m.	Dental	
	Thurs.	a.m.	Minor ailments	
	Fri.	a.m. & p.m.	Dental	
Padiham West Bank House. *Telephone, Padiham 226.*	Mon.	a.m. & p.m.	Dental	
	Tues.	a.m.	Minor ailments	
	Wed.	a.m. & p.m.	Dental	
	Thurs.	p.m.	Ophthalmic	Open first and fourth Thursdays only.
	Thurs.	a.m. & p.m.	Dental	
	Fri.	a.m.	Minor ailments	Nurse only. Re-dressings.
Preesall 7, Elletson Terrace.	Wed.	a.m.	Minor ailments	Alternate weeks.
		a.m.	Minor ailments	Nurse only. Re-dressings. Alternate weeks.
	Thurs.	a.m. & p.m.	Dental	

Township.	Days and Times of Opening.		Nature of work undertaken.	Remarks.
Prescot Old Grammar School *Telephone, Prescot 6228.*	Mon.	a.m. & p.m.	Dental	
		a.m.	Minor ailments	
	Tues.	a.m.	Dental	
	Wed.	a.m. & p.m.	Dental	
		p.m.	Ophthalmic	
	Thurs.	a.m.	Minor ailments	Nurse only. Re-dressings.
		a.m. & p.m.	Dental	
	Fri.	a.m. & p.m.	Orthopædic	Surgeon attends fourth Friday (p.m.) in each month only.
Preston Open-Air School, Deepdale Road. *Telephone, Preston 5046.*	Wed.	a.m. & p.m.	Orthopædic	Surgeon attends third Wednesday in each month only.
Rainford Council Offices. *Telephone, Rainford 345.*	Tues.	p.m.	Dental	
	Fri.	a.m.	Minor ailments	Alternate weeks.
		a.m.	Minor ailments	Nurse only. Re-dressings. Alternate weeks.
Ramsbottom Bank Chambers, Bridge Street. *Telephone, Ramsbottom 3243.*	Mon.	a.m.	Minor ailments	Nurse only. Re-dressings.
	Tues.	a.m. & p.m.	Dental	
	Wed.	a.m.	Minor ailments	
	Thurs.	a.m. & p.m.	Dental	
		a.m.	Ophthalmic	Open alternate weeks only.
Rawtenstall Kay Street.	Wed.	a.m.	Orthopædic	Surgeon attends fourth Wednesday in each month only.
Rishton 108, High Street. *Telephone, Gt. Harwood 177.*	Mon.	a.m.	Minor ailments	Nurse only. Re-dressings.
		a.m. & p.m.	Dental	
	Tues.	a.m.	Ophthalmic	Open alternate weeks only.
		a.m.	Dental	
	Wed.	p.m	Orthopædic	Surgeon attends fourth Wednesday in each month only.
	Thurs.	a.m. & p.m.	Dental	
	Fri.	a.m.	Minor ailments	
Rochdale Smith Street	Mon.	a.m.	Orthopædic	Surgeon attends each week.
	Fri.	p.m.	Ophthalmic	Open alternate weeks only.
Royton Post Office Buildings, Park House. *Telephone, Oldham (Main) 2223.*	Mon.	a.m.	Minor ailments	
	Wed.	a.m. & p.m.	Dental	
	Thurs.	a.m.	Ophthalmic	Open alternate weeks only.
		a.m. & p.m.	Dental	
	Fri.	a.m.	Minor ailments	Nurse only. Re-dressings.
Skelmersdale Congregational School, Witham Road	Wed.	1-0—2-0 p.m.	Inspection	First Wednesday in each month only.
Thornton-le-Fylde Church Road. *Telephone, Cleveleys 3380.*	Mon.	a.m.	Minor ailments	
	Tues.	a.m. & p.m.	Dental	
	Wed.	a.m.	Ophthalmic	Open alternate weeks only.
		a.m. & p.m.	Dental	
	Thurs.	a.m.	Minor ailments	Nurse only. Re-dressings.

Township.	Days and Times of Opening.		Nature of work undertaken.	Remarks.
Tyldesley	Mon.	a.m. & p.m.	Dental	
Old Council Offices,		p.m.	Orthopædic	Nurse only.
Elliott Street.	Tues.	a.m.	Minor ailments	
Telephone, Atherton 217.	Wed.	a.m. & p.m.	Dental	
		a.m.	Orthopædic	Second Wednesday in each month only.
	Thurs.	a.m. & p.m.	Dental	
		p.m.	Minor ailments	Nurse only. Re-dressings.
	Fri.	a.m.	Ophthalmic	
Ulverston	Mon.	a.m.	Minor ailments	Nurse only. Re-dressings.
The Rookery,		a.m. & p.m.	Dental	
Brogden Street.	Tues.	a.m. & p.m.	Dental	
Telephone, Ulverston 93.		p.m.	Orthopædic	Open third Tuesday alternate months.
	Wed.	a.m.	Minor ailments	
	Thurs.	a.m.	Ophthalmic	Open alternate weeks only.
		a.m. & p.m.	Dental	
Walkden	Mon.	a.m. & p.m.	Dental	
51, Park Road.		a.m.	Ophthalmic	Open alternate weeks only.
Telephone, Walkden 2230.	Tues.	a.m.	Minor ailments	Nurse only. Re-dressings.
	Wed.	a.m. & p.m.	Dental	
	Thurs.	a.m. & p.m.	Dental	
	Fri.	a.m.	Minor ailments	
Westhoughton	Mon.	a.m.	Dental	
Market Street.		a.m.	Minor ailments	
Telephone, Westhoughton 139.	Tues.	p.m.	Artificial light.	
	Wed.	a.m. & p.m.	Dental	
		a.m.	Ophthalmic	Open every fourth Wednesday only.
	Thurs.	a.m.	Dental	
		p.m.	Minor ailments	Nurse only. Re-dressings.
	Fri.	a.m.	Dental	
		11 a.m.—12 noon	Artificial light	
Whitefield	Mon.	a.m. & p.m.	Dental	
"The Uplands,"	Tues.	a.m.	Minor ailments	
Telephone, Whitefield 2227.	Wed.	a.m. & p.m.	Dental	
		a.m.	Orthopædic	Third Wednesday in each month only.
	Thurs.	a.m. & p.m.	Orthopædic	Nurse only.
	Fri.	a.m.	Ophthalmic	
		p.m.	Minor ailments	Nurse only. Re-dressings.
		a.m. & p.m.	Dental	
Whitworth	Mon.	a.m.	Minor ailments	
"Burnedge Villa,"	Thurs.	a.m.	Minor ailments	Nurse only. Re-dressings.
Market Street.	Fri.	a.m. & p.m.	Dental	
Telephone, Whitworth 5181.				
Wigan	Mon.	a.m.	Orthopædic	Surgeon attends first and third Mondays in each month only.
Public Health Office,				
Library Street.				
Telephone, Wigan 125.				

The following table shows the number of attendances made at the various School Clinics during the past year:—

Name of Clinic.	Minor Ailments and Inspection.				Dental.			Ophthalmic.		Artificial Lig	
	Children in Attendance at School.		Children under 5 and not at School.								
	Treatment.	Inspection.	Treatment.	Inspection.	Children in Attendance at School.	Children under 5 and not at School.	Nursing and Expectant Mothers.	Children in Attendance at School.	Children under 5 and not at School.	Children in Attendance at School.	Child unde and at Sc
Ashton-in-Makerfield	1943	1794	7	11	1476	8	8	821	12	...	...
Ashton-under-Lyne...	...	...	...	...	...	...	...	...	...	215	4
Atherton	1567	571	...	3	1349	21	44	876	33	1388	84
Audenshaw	2826	1006	27	13	1907	23	...	423	5	...	...
Bamber Bridge ...	235	34	36	4	1349	2	28	42	2	...	...
Banks	14	9	3	1	135	...	1	...	...	...	...
Blackburn	...	...	...	...	108	...	...	...	...	...	...
Bromley Cross ...	60	198	...	...	...	...	...	...	...	...	...
Carnforth	413	278	129	216	849	13	60	97	9	...	...
Chorley	722	166	68	14	1700	6	9	258	11	364	3
Crompton	2093	329	36	7	1078	4	...	351	12	...	...
Dalton-in-Furness ...	3252	425	453	181	856	19	54	282	25	...	...
Davyhulme	565	703	21	27	1757	64	9	353	60	...	...
Droylsden	1615	670	26	8	1222	28	14	231	11	...	...
Earlestown	2081	751	18	23	2148	40	81	444	43	...	...
Failsworth	2631	616	62	23	1600	26	33	864	53	...	...
Fleetwood	6482	682	731	51	2671	86	169	629	59	...	...
Garstang	...	312	...	237	...	...	...	...	...	...	...
Haydock	1719	327	59	10	703	21	66	321	49	...	...
Horwich	2686	662	...	1	1301	5	31	464	28	579	...
Huyton	4819	1494	117	113	...	...	...	629	88	...	...
Irlam	969	429	65	24	1656	38	39	427	18	...	...
Kearsley	1280	510	3	1	1202	3	17	745	48	...	...
Kirkham	816	403	107	11	...	...	...	...	...	...	...
Lancaster	...	...	...	...	...	...	...	67	13	...	...
Leyland	4414	38	360	6	1643	20	29	294	24	...	...
Litherland	2444	153	61	...	1647	93	107	720	35	...	...
Littleborough ...	2794	504	49	7	915	14	5	433	32	...	...
Longridge	3934	168	135	...	1130	35	52	280	13	...	...
Longton	...	...	...	...	...	...	...	70	3	...	...
Milnrow	2084	216	15	3	495	10	7	...	...	...	...
Nelson	93	251	...	...	1295	...	3	87	1	...	...
Ormskirk	3825	98	...	1	513	22	16	...	...	...	...
Orrell...	942	575	23	8	979	14	89	880	198	...	...
Oswaldtwistle ...	417	1189	4	...	1279	1	11	237	9	...	...
Padiham	843	701	22	3	1854	2	16	178	9	...	...
Preesall	57	81	79	101	647	11	24	...	...	...	...
Prescot	1721	1508	60	36	1739	173	209	261	37	...	...
Ramsbottom ...	1121	452	11	4	1448	3	2	450	...	...	...
Rishton	454	2068	2	13	1786	1	11	463	17	...	...
Rochdale	...	...	...	...	...	...	...	274	54	...	...
Royton	3944	316	2	...	1638	10	...	371	7	...	...
Skelmersdale ...	...	265	...	...	...	...	...	...	...	...	...
Thornton-le-Fylde ...	5434	575	1168	91	...	...	...	...	...	...	...
Tyldesley	2388	453	8	3	1973	9	...	959	9	...	...
Ulverston	3494	507	422	175	1834	44	41	327	52	...	...
Walkden	884	298	4	2	1940	18	15	349	23	...	...
Westhoughton ...	2655	283	...	...	1382	16	20	631	...	185	...
Whitefield	1462	524	...	...	2581	61	15	516	27	...	...
Whitworth ...	2238	328	58	2	774	7	14	...	...	...	...
Total ...	86430	25920	4451	1434	54559	971	1349	16104	1129	2731	159

Total number of attendances made by children of school age	183,744
Total number of attendances made by Child Welfare cases	10,928
Grand Total	194,672

Arrangements have been made with the following Hospitals and Clinics for the treatment of specified classes of defect :—

Ashton-under-Lyne District Infirmary	Tonsils and adenoids, refractions, operative treatment of squint, X-ray treatment of ringworm.
Ashton-under-Lyne Clinic (Secondary School cases)	Refractions, teeth.
Blackburn Royal Infirmary	Tonsils and adenoids, X-ray treatment of ringworm, refractions, operative treatment of squint.
Blackburn School Clinic	Teeth.
Blackburn Orthoptic Clinic	Orthoptic treatment of squint.
Blackburn Ultra-Violet Light Clinic	Ultra-Violet Light.
Blackpool Victoria Hospital	Tonsils and adenoids, operative treatment of squint.
Bolton Royal Infirmary	Refractions, tonsils and adenoids, X-ray treatment of ringworm, operative treatment of squint.
Bolton School Clinic	Teeth.
Burnley Victoria Hospital	Refractions, tonsils and adenoids, operative treatment of squint.
Burnley Orthoptic Clinic	Orthoptic treatment of squint.
Bury Infirmary	Tonsils and adenoids, refractions, operative treatment of squint, X-ray treatment of ringworm.
Chorley Hospital	Tonsils and adenoids, operative treatment of squint.
Colne Hartley Hospital	Refractions, tonsils and adenoids, operative treatment of squint.
Darwen Clinic (Secondary School cases)	Refractions, teeth.
Davyhulme Park Hospital	Tonsils and adenoids.
Farnworth Clinic (Secondary School Cases)	Teeth.
Fleetwood Hospital	Tonsils and adenoids.
Ince-in-Makerfield Clinic (Secondary School cases)	Teeth
Lancaster Royal Infirmary	Tonsils and adenoids.
Leigh Borough Clinic	Tonsils and adenoids.
Liverpool Eye, Ear and Throat Infirmary (Myrtle Street)	Tonsils and adenoids, refractions, operative treatment of squint.
Liverpool St. Paul's Eye Hospital	Operative treatment of squint.
Liverpool Alder Hey Hospital	Anæmia, ringworm of the head, otorrhœa and Ultra-Violet light.
Liverpool Belmont Road Hospital	Scabies and other skin diseases.
Lytham Hospital	Operative treatment of squint.
Manchester Ancoats Hospital	Aural cases (operative treatment), tonsils and adenoids.
Manchester Dental Hospital	Orthodontic treatment.
Manchester Royal Eye Hospital	Orthoptic and operative treatment of squint.

Manchester and Salford Hospital for Skin Diseases ...	X-ray treatment of ringworm
Morecambe Clinic ... ... (Secondary School cases)	Refractions, teeth.
Nelson, Reedyford Memorial Hospital	Tonsils and adenoids, operative treatment of squint, refractions.
Oldham Royal Infirmary ...	Refractions, operative treatment of squint, X-ray treatment of ringworm, tonsils and adenoids.
Ormskirk General Hospital ...	Tonsils and adenoids, refractions, eye operations.
Preston Royal Infirmary ...	Tonsils and adenoids, X-ray treatment of ringworm, refractions, operative treatment of squint, aural treatment.
Radcliffe Clinic (Secondary School Cases)	Refractions, teeth.
Ramsbottom Cottage Hospital	Tonsils and adenoids.
Rawtenstall Clinic	Minor ailments, teeth, refractions.
St. Helens Peasley Cross Hospital	Refractions, operative treatment of squint, tonsils and adenoids, operative treatment of aural defects.
St. Helens Provindence Hospital ...	Operative treatment of squint.
St. Helens Clinic	Minor ailments, teeth.
Southport Infirmary (Pilkington Road) ...	Tonsils and adenoids.
Stretford Clinic ... ... (Secondary School cases)	Tonsils and adenoids, refractions, aural treatment, teeth.
Ulverston Cottage Hospital ...	Tonsils and adenoids.
Warrington Infirmary ...	Tonsils and adenoids, refractions, operative treatment of squint.
Whiston Infirmary	Operative treatment of squint, ear, nose and throat defects.
Widnes Accident Hospital ...	Tonsils and adenoids.
Widnes School Clinic	Refractions, teeth, minor ailments.
Wigan Royal Infirmary ...	Tonsils and adenoids.
Wigan, Tower Buildings ...	Refractions.

The following statement shows the number of individual children who received treatment under the Hospital Scheme of the Lancashire County Council during the twelve months ended 31st December, 1938 :—

Disease or Defect.	Elementary.	Secondary.	Child Welfare.	Total.
Enlarged Tonsils and Adenoids ...	2,482	32	164	2,678
Defective Vision	503	146	23	672
Squint	147	5	5	157
Aural	14	...	...	14
Ringworm	13	...	...	13
Teeth	304	90	...	394
Miscellaneous*	21	...	10	31

* Includes Ultra Violet Light, Minor Ailments, Otorrhœa and Skin Diseases.

The following table shows the number of cases treated at each Hospital, Infirmary, or Treatment Centre with which the Lancashire County Council has made arrangements:—

Hospital, Infirmary, or Treatment Centre.	Tonsils and Adenoids.			Defective Vision.			Squint.			Ringworm.			Aural.			Teeth.			Miscellaneous.		
	E.	S.	C.W.	E.	S.	C.W.	E.	S.	C.W.	E.	S.	C.W.	E.	S.	C.W.	E.	S.	C.W.	E.	S.	C.W.
Ancoats Hospital	184	2	30	...	...	...	...	...	...	...	...	...	3	...	...	...	...	...	...	...	...
Ashton-under-Lyne Infirmary	70	...	1	14	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Ashton-under-Lyne Clinic	...	...	...	...	15	...	...	...	...	...	...	...	...	...	...	...	7	...	...	...	...
Blackburn Royal Infirmary	195	4	2	15	5	...	5	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Blackburn Dental Clinic	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	21	...	...	...	...	...
Blackburn Orthoptic Clinic	...	...	...	...	...	...	2	1	...	...	...	...	...	...	...	...	...	...	...	...	...
Blackburn Ultra Violet Light Clinic	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	*2	...	*1
Bolton Royal Infirmary	396	4	9	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Bolton Dental Clinic	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	159	...	...	...	...	...
Burnley Victoria Hospital	39	...	4	1	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Burnley Orthoptic Clinic	...	...	...	...	...	...	5	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Bury Infirmary	4	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Chorley Hospital	84	1	12	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Colne Hartley Hospital	...	...	...	8	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Darwen Clinic	...	...	...	...	7	...	...	...	...	...	...	...	...	...	...	...	3	...	...	...	...
Davyhulme Park Hospital	222	1	16	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Farnworth Clinic	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	9	...	...	...	...
Fleetwood Hospital	206	2	27	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Ince-in-Makerfield Clinic	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...
Lancaster Royal Infirmary	5	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Leigh Borough Clinic	18	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	§1	...	...
Liverpool Alder Hey Hospital	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	†1	...	†2
Liverpool Belmont Road Hospital	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	‡17	...	‡7
Liverpool Eye, Ear and Throat Infirmary ...	98	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Liverpool St. Paul's Eye Hospital	...	...	...	...	...	...	5	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Manchester Dental Hospital	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	54	...	...	...	...	...
Manchester Royal Eye Hospital	...	...	...	...	...	...	123	4	5	...	...	...	...	...	...	...	...	...	...	...	...
Manchester and Salford Hosp. Skin Dis. ...	...	...	...	...	...	...	...	...	...	10	...	...	...	...	...	...	...	...	...	...	...
Morecambe Clinic	...	...	...	...	6	...	...	...	...	...	...	...	...	...	...	...	4	...	...	...	...
Oldham Royal Infirmary	113	...	5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Ormskirk General Hospital	101	3	4	103	4	14	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Preston Royal Infirmary	238	6	24	122	4	9	6	...	...	3	...	...	3	...	...	...	...	...	...	...	...
Ramsbottom Cottage Hospital	43	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Rawtenstall Clinic	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Southport Infirmary	3	...	2	...	...	...	...	...	...	...	...	...	...	...	...	4	2	...	...	...	...
St. Helens Peasley Cross Hospital	134	4	8	1	...	...	...	...	...	...	...	...	8	...	...	...	...	...	...	...	...
St. Helens Clinic	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	30	...	...	...	...	...
Stretford Clinic	...	2	...	...	81	...	...	...	...	...	...	...	...	...	...	...	35	...	...	...	...
Ulverston Cottage Hospital	91	...	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Warrington Infirmary	144	2	6	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Whiston Infirmary	68	...	5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Widnes Accident Hospital	4	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Widnes Clinic	...	...	...	1	13	...	...	...	...	...	...	...	...	...	...	34	29	...	...	...	...
Wigan Royal Infirmary	22	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Dr. Bywater, Tower Buildings, Wigan ...	...	...	...	238	10	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total	2482	32	164	503	146	23	147	5	5	13	...	...	14	...	...	304	90	...	21	...	10

E. Elementary School Children. S. Secondary, Continuation and Technical School Children. C.W. Children in attendance at Child Welfare Centres.
* Ultra Violet Light. § Minor Ailments. † Otorrhœa. ‡ Skin Diseases.

ARRANGEMENTS FOR THE TREATMENT OF CERTAIN CONDITIONS.

Minor Ailments and Inspection.

Minor ailments include defects such as discharging ears, external eye diseases, skin diseases, minor injuries, etc., and 16,272 individual school children received treatment for these conditions under the Committee's scheme during the year. Up to the present time 48 Clinics have been established for the treatment of minor ailments and/or inspection.

Medical inspection is available for all children.

Tonsils and Adenoids.

Arrangements are now in force with the following Hospitals and Clinics for the operative treatment of Tonsils and Adenoids :—Ancoats Hospital, Manchester ; Ashton-under-Lyne Infirmary ; Blackburn Royal Infirmary ; Blackpool Victoria Hospital ; Bolton Infirmary ; Burnley Victoria Hospital ; Bury Infirmary ; Chorley Hospital ; Davyhulme Park Hospital ; Fleetwood Hospital ; Hartley Hospital, Colne ; Lancaster Royal Infirmary ; Leigh Borough Clinic ; Myrtle Street Hospital, Liverpool ; Oldham Royal Infirmary ; Ormskirk Cottage Hospital ; Peasley Cross Hospital, St. Helens ; Preston Royal Infirmary ; Ramsbottom Cottage Hospital ; Reedyford Memorial Hospital, Nelson ; Southport Infirmary ; Stretford Clinic ; Ulverston Cottage Hospital ; Warrington Infirmary ; Widnes Accident Hospital ; Wigan Royal Infirmary.

During the year the number of Elementary School children who received operative treatment for this condition was 2,635, of whom 2,484 were treated under the Committee's scheme.

Aural Disease.

Arrangements are now in force with the following Hospitals and Clinics for operative and other treatment in cases of ear disease :—Ancoats Hospital, Manchester ; Peasley Cross Hospital, St. Helens ; Preston Royal Infirmary ; Stretford Clinic ; and Whiston County Hospital.

During the year 14 Elementary School children received treatment under the Committee's scheme.

Tuberculosis.

The treatment of school children suffering from tuberculosis is in the hands of the Tuberculosis Committee of the Lancashire County Council, and all cases for treatment are referred to the Tuberculosis Officer for the area concerned.

Defects of Vision.

The treatment of defects of vision is undertaken either in the Eye Departments of General Hospitals or in the Eye Departments of the Committee's own Clinics. In the former case it is undertaken by the Specialist Staff of the Hospital ; in the latter case by part-time Visiting Specialists. Arrangements have been made with the following Hospitals :—Ashton-under-Lyne ; Blackburn ; Blackpool ; Bolton ; Burnley ; Bury ; Colne ; Liverpool, Myrtle Street Eye and Ear, and St. Paul's Eye ; Manchester Royal Eye ; Oldham ; Ormskirk ; Preston ; Memorial Hospital, Nelson ; Peasley Cross Hospital, St. Helens ; Providence Hospital, St. Helens ; Warrington ; Whiston ; Wigan (Tower Buildings) ; also at the following Clinics :—Ashton-under-Lyne ; Darwen ; Morecambe ; Radcliffe ; Rawtenstall ; Stretford ; Widnes.

Visiting Specialists or members of the Committee's Medical Staff attend the Committee's School Clinics in Ashton-in-Makerfield, Atherton, Audenshaw, Bamber Bridge, Carnforth, Chorley, Crompton, Dalton-in-Furness, Davyhulme, Droylsden, Earlestown, Failsworth, Fleetwood, Haydock, Horwich, Huyton, Irlam, Kearsley, Lancaster, Leyland, Litherland, Littleborough, Longridge, Nelson, Orrell, Oswaldtwistle, Padiham, Prescot, Ramsbottom, Rishton, Rochdale, Royton, Tyldesley, Ulverston, Walkden, Westhoughton and Whitefield.

The number of Elementary School children who received treatment for errors of refraction (including squint) was 7,581, of whom 7,434 were dealt with under the Committee's scheme.

Arrangements have also been made with certain firms of opticians, in connection with each Ophthalmic Clinic or Hospital, to supply spectacles at a fixed low charge. In necessitous cases the charge is reduced or remitted altogether. The number of children who either purchased glasses or received them free under this scheme was 4,720.

In one area a local charity has arranged for the treatment of visual defect in Elementary School children, and provides spectacles free of charge to every child requiring them.

Squint.

The arrangements for the operative treatment of this condition are detailed elsewhere in the Report. Orthoptic treatment is carried out at certain of the School Clinics, and arrangements have also been made with the Lancaster Royal Infirmary and the Manchester Royal Eye Hospital, and the Blackburn and Burnley Education Committees.

The following table, which deals with County children only, has been supplied by the Orthoptic Department of the Manchester Royal Eye Hospital :—

Case No.	Age in years.	Vision Before		Vision After		Squint.		Treatment.			Remarks.
		R.	L.	R.	L.	Before.	After.	Orthoptic	Operation.	Glasses.	
1	11	6/18	6/9	6/9pt	6/5pt	+15°	0°	39	Yes	Prescribed	Examined frequently since discharge. Still perfect.
2	9	6/6	6/9	6/6	6/6	+20°	0°	27	Yes	,,	,,
3	14	6/12	6/6	6/9	6/6	+25°	0°	32	Yes	,,	,,
4	7	6/12	6/18	6/6	6/12	+30°	0°	13	...	,,	,,
5	7	6/9	6/60	6/6	6/12	+10°	0°	17	...	,,	,,
6	10	6/6	6/18	6/6	6/12	+20°	0°	39	Yes	...	,,
7	8	6/18	6/18	6/6pt	6/9	+40°	+8°	52	Yes	Prescribed	Appearance good, no retrogression since discharge.
8	9	6/18	6/5	6/9	6/6	—5°	0°	7	...	,,	Still perfect
9	9	6/18	1/60	6/18	6/18	+20°	—5°	15	Yes	,,	Appearance good, slightly divergent.
10	11	6/9	4/60	6/6	6/9	—5°	0°	12	...	,,	Still perfect
11	10	6/24	6/9	6/12	6/9	+40°	0°	18	Yes	,,	,,
12	11	6/9	4/60	6/9	6/12	+40°	0°	18	Yes	,,	,,
13	11	6/6	6/6	6/6	6/6	+25°	0°	25	...	,,	,,
14	8	6/6	6/5	6/6	6/5	+35°	0°	55	Yes	,,	,,
15	9	6/18	6/9	6/12	6/9	+30°	—7°	42	Yes	,,	Appearance good, slightly divergent.
16	9	6/9	6/6	6/9	6/6	+30°	+5°	34	Yes	,,	Appearance good, slightly convergent.
17	12	6/6	6/36	6/6	6/18	+15°	+5°	12	...	,,	,,
18	8	1/60	6/6	6/9	6/6	+25°	+5°	34	Yes	...	Appearance good, no retrogression.
19	12	6/9	6/36	6/6	6/12	+30°	+5°	31	Yes	Prescribed	,,
20	9	6/12	1/60	6/6	6/60	+10°	+5°	3	...	,,	Appearance good, slight retrogression.
21	8	6/18	6/12	6/18	6/12	+5°	0°	6	...	,,	Appearance good, no retrogression.
22	13	6/9	fingers only	6/9	6/36	+50°	+10°	17	Yes	,,	Appearance fairly good some convergence.
23	11	6/60	6/12	6/18	6/6	+15°	+7°	21	...	,,	,,
24	13	6/60	6/18	6/36	6/12	0°	0°	2	...	,,	Appearance good
25	9	6/9	6/12	6/9	6/9	+25°	+8°	37	Yes	,,	Appearance fairly good.

The following report is by Dr. J. A. McCann, Ophthalmic Surgeon in charge of the Orthoptic treatment carried out at the Orrell School Clinic :—

> "The comprehensive treatment of strabismus is carried out at the Ophthalmic Clinic at Orrell, in conjunction with the Eye and Ear Infirmary, Liverpool, the endeavour being to start treatment as soon as possible after the appearance of the defect. Treatment is frequently commenced as early as the second year.
>
> Refractive errors and the prevention of amblyopia receive attention until the child is of such an age as to benefit by Orthoptic training, which usually occurs about the fourth year.
>
> Orthoptic work has been found of great value from the diagnostic as well as from the therapeutic point of view, in some cases rendering operation unnecessary, and if essential, aiding the decision of the most suitable procedure for each case.
>
> In a short recent series of convergent concomitant strabismus, amblyopia has been prevented or improved in 95 per cent., convergence rectified in 75 per cent. and improved in 25 per cent., Orthoptic treatment alone sufficient in 25 per cent., operation necessary, 75 per cent.
>
> Most of the work is done while the children are still illiterate, necessarily demanding great patience and perseverance on the part of the nursing staff."

Dental Defects.

The dental staff now consists of nineteen full-time dental surgeons, each assisted by a dental attendant. Dental Clinics have been established in Ashton-in-Makerfield, Atherton, Audenshaw, Bamber Bridge, Banks, Blackburn, Carnforth, Chorley, Crompton, Dalton-in-Furness, Davyhulme, Droylsden, Earlestown, Failsworth, Fleetwood, Haydock, Horwich, Huyton, Irlam, Kearsley, Leyland, Litherland, Littleborough, Longridge, Milnrow, Nelson, Ormskirk, Orrell, Oswaldtwistle, Padiham, Preesall, Prescot, Rainford, Ramsbottom, Rishton, Royton, Thornton Cleveleys, Tyldesley, Ulverston, Walkden, Westhoughton, Whitefield and Whitworth.

The number of Elementary School children who received treatment during the year was 33,009.

Apart from routine work the dental surgeons treat, on the recommendation of the Medical Officer, the following classes :—

(1) Expectant and Nursing Mothers ;

(2) Children under school age ;

(3) Casuals.—These are of three types :—

- Urgent cases, *e.g.*, toothache, dental abscess ;
- Cases where the mouth has to be put into a clean condition previous to operation for tonsils and adenoids ;
- Cases in which the Medical Officer requests that dental treatment should be given for some other medical reason.

During the year, 67,113 children attending Elementary Schools were inspected by the School Dental Surgeons. Of these, 46,782, or 69·7 per cent. were found to require treatment, and of those requiring treatment 70·6 per cent. actually obtained it, as against percentages of 70·0 and 70·4 respectively, for 1937.

The following table gives the numbers of children inspected and treated during the past fourteen years :—

Year.	Total Inspections.	Percentage needing Treatment.	Percentage actually treated of those in previous Column.
1925	10,458	81·3	75·8
1926	18,676	80·7	77·3
1927	25,434	78·7	78·8
1928	34,037	74·6	67·2
1929	40,053	78·5	64·1
1930	46,550	77·0	66·1
1931	49,025	78·2	68·8
1932	61,869	73·7	62·4
1933	61,374	73·1	62·7
1934	59,846	78·9	66.3
1935	68,189	67·7	64·5
1936	60,795	66·9	69·9
1937	59,262	70·0	70·4
1938	67,113	69·7	70·6

The number of extractions totalled 79,310, of which 18,003 were of permanent teeth and 61,307 temporary teeth. 22,390 fillings were performed.

The value of the School Dental Service is not adequately revealed by reference to tables showing the number of extractions and fillings performed.

The benefits are reaped in the improvement in the general physical condition of the child consequent upon dental care and treatment, for neglect of the teeth accounts for much disability other than oral disease and no form of preventive medicine is complete which fails to stress the importance of the hygiene of the mouth.

Part of the work of the Dental Surgeons consists in endeavouring to secure that children shall be trained in the care of the teeth, and for this purpose parents are interviewed when treatment is carried out and the importance of oral cleanliness explained to them. During the year 16,583 parents were so interviewed.

It is discouraging to find a large proportion of children presenting themselves for inspection with obviously neglected mouths in spite of the attention being paid to the subject of the care of the teeth in the school curriculum, and it is hard to justify the amount of time spent on conservative treatment when it is found that the work and care expended on fillings has largely been wasted owing to the children failing to carry out regular cleaning of their teeth at home. The lack of interest on the part of many parents is to be deplored. Whilst the propaganda work and talks carried out by many head teachers has been helpful, it is felt that the stressing of practical methods such as a daily oral inspection in school would emphasise the fact that a clean mouth is as of much importance as clean hands and a clean face. The apportioning of a score from which marks are substracted for unsound teeth would enliven the interest of the children and be an incentive to them to obtain treatment.

The number of schools covered by the dental scheme in 1938 was 502, and these embrace about 84 per cent. of the children in average attendance at schools in the County Area. 351 schools received routine dental inspection during the year.

Circular 1444, of the Board of Education states that authorities should aim at securing an initial dental inspection of each child on its entry into school life, to be followed by an annual re-examination until the child ceases to attend school. On this basis, the Board estimates that, with a normal number of acceptances for treatment, a minimum standard should consist of one dental surgeon for 5,000 children in an urban area and 4,000 children in a rural area, although this would be insuffcient where a high percentage of parents accept treatment for their children. To reach this minimum standard in the Administrative County an additional nine dental surgeons would be required.

Arrangements have been made with the Manchester Dental Hospital for the treatment of orthodontic defects in children residing in those parts of the County Area, which are within easy reach of the hospital. During the year 1938, 54 such cases were treated. They made 461 attendances.

Orthopædic and Postural Defects.

The treatment of crippling defects is a protracted process, involving lengthy and expert after-care, without which the necessary initial procedures of the surgeon are either futile or largely wasted in many types of case. In treating a crippled child the surgeon not only determines the exact surgical or manipulative measures which are the first step in the process of cure or amelioration, but also clearly envisages and marks out the subsequent and remote path by which the patient is to be led to the desired end.

As a matter of administration, the treatment of cripples may be arranged in one of two ways. The patient may be kept in a suitable type of hospital for the duration of his treatment, often lasting over a term of years ; or, after a period in hospital during which any necessary surgical measures are carried out, he may be discharged and kept under expert supervision at After-Care Centres. The first is probably the ideal way, but generally speaking it is impracticable. The advantage of the second method, apart from the reduction in cost, is that it enables a much greater number of cases to be treated. It is the method which has been adopted in Lancashire.

For the purposes of the Lancashire County Council Orthopædic Scheme, the County has been divided into two regions. In one region the base of operations is Manchester ; in the other, Liverpool.

The following autonomous Local Authorities are now included in the County's Scheme :—

The City of Lancaster and the County Boroughs of Blackpool, Burnley, Bury, Preston and Wigan.

The Municipal Boroughs of Accrington, Ashton-under-Lyne, Bacup, Clitheroe, Colne, Darwen, Eccles, Haslingden, Heywood, Leigh, Lytham St. Annes, Morecambe, Mossley, Nelson and Rawtenstall.

The Urban Districts of Chadderton, Farnworth, Hindley, Ince-in-Makerfield, and Radcliffe.

In addition, the Urban Districts of Denton, Golborne, Horwich, Newton-le-Willows and Tyldesley which are autonomous for Maternity and Child Welfare work only, have also joined the scheme in respect of their children under school age.

After-care Centres have been established at Ashton-in-Makerfield, Ashton-under-Lyne, Burnley, Chadderton, Darwen, Earlestown, Fleetwood, Haydock, Horwich, Irlam, Kearsley, Lancaster, Leyland, Litherland, Nelson, Ormskirk, Prescot, Preston, Rawtenstall, Rishton, Rochdale, Tyldesley, Ulverston, Whitefield and Wigan.

Procedure.

New cases are ordinarily seen in the first instance at the After-care Centres by an Orthopædic Surgeon who decides on the further steps—whether treatment by the After-care Nurse, reference to hospital for X-ray examination or for consultation with the Consultant Orthopædic Surgeon, or admission to hospital.

The location of the After-care Centres in each region has already been given. Each Centre is open weekly and crippled children in the district served by it are seen by the After-care Nurse who carries out appropriate treatment. These After-care Nurses have been specially trained for their work.

Once a month each Centre is visited by an Orthopædic Surgeon who sees all the cases under treatment and all new cases which are referred to him. This monthly session is also attended by the Assistant County Medical Officer for the district who thus obtains first hand information about his own cases.

The arrangements at Lancaster and Ulverston are exceptional in that the After-care Centres are visited by the staff of the Ethel Hedley Hospital every two months, and by the After-care Nurse fortnightly.

Full clinical notes are kept in respect of each case. These notes are available as and when required whether at a hospital or After-care Centre.

In addition to the main scheme which has been outlined above, arrangements are in force with the Memorial Home for Crippled Children at Bamford, Rochdale. The Home is situated high up on the moors above Rochdale in a place of wide prospect and bracing air. It is recognised by the Board of Education as a Special School. Dr. H. W. Bateman, Surgeon of the Rochdale Infirmary, is in charge of this Home, and carries out all the operative work therein.

All the facilities of the Scheme are equally available for children under school age in those districts of the Administrative County for which the County Council is the Authority under the Public Health Act, 1936.

The following table shows the number of children treated during 1938 :—

	Manchester Royal Infirmary.	Ancoats Hospital.	Biddulph Orthopædic Hospital.	Ethel Hedley Hospital.	Rochdale Crippled Children's Home.	Royal Liverpool Children's Hospital.	
						Myrtle Street Hospital.	Heswall Country Hospital.
In-patients, 1st Jan., 1938	...	2	63	8	5	3	29
Admitted during the year	6	27	111	23	9	55	43
Discharged during the year	6	29	111	19	11	53	42
Remaining on 31st Dec., 1938	...	...	63	12	3	5	30

After-Care Centres.

The following is a summary of the work done during the year in the After-care Centres :—

No. of individual children who attended	4,326
Total number of attendances made	17,190
No. of children referred to Consultant Orthopædic Surgeon at Hospitals	378
No. of children recommended operative treatment by Orthopædic Surgeons at Centre or Hospital	321
No. of Plasters made at Centres	261
No. of Surgical Appliances, *e.g.*, boots, irons, etc., supplied through Centres	1,819
No. of children given remedial exercises	1,494
No. of children for whom treatment has been refused by parents or guardians	77

The following table shows the defects from which the children seen in the After-care Centres were suffering :—

Paralysis—	
(*a*) Infantile—Upper Limb ...	25
Lower Limb ...	250
Upper and Lower Limbs	13
(*b*) Spastic—Monoplegia ...	16
Diplegia	15
Paraplegia... ...	90
Hemiplegia ...	119
(*c*) Birth Palsy	56
Facial Paralysis	–
Deformities, Congenital—	
Hydrocephalus	7
Cleft Palate	2
Scoliosis	90
Sprengel's Shoulder	6
Rudimentary and Malformed Limbs	79
Talipes Equino-varus	91
Talipes Equino-valgus	6
Pes Calcaneus	52
Torticollis	147
Spina Bifida	36
Spina Bifida with Club Foot ...	13
Achondroplasia	6
Metatarsus Varus	62
Absence of Bones	2
Dislocation of Hip	82
Subluxation of Hip	2
Contractions	38
Syndactylism	18
Wedged Vertebra	2
Adduction, Fifth Toe	19
Supernumerary Digits	8
Other Deformities	82
Deformities, Traumatic—	
Fractures of Upper and Lower Limbs	97
Dislocations	13
Displaced Epiphysis	4
Contusions	24
Tendons	6
Amputations	7
Sprains	40
Intra Uterine Amputation of Hand	3

Intra Uterine Amputation of Hand and Foot	2
Coxa Vara	8
Nerve Injuries	4
Other Deformities	25
Deformities, Other—	
Pronated Feet	178
Pes Cavus	62
Pes Varus	11
Pes Planus	487
Genu Recurvatum	1
Claw Feet	12
Hallux Valgus	68
Scoliosis	174
Kyphosis	121
Lordosis	11
Synostosis Radius and Ulna ...	2
Pseudo-coxalgia	29
Hammer Toes	59
Miscellaneous	156
Rickets—	
Genu Varum	263
Genu Valgum	517
Genu Valgum and Coxa Vara ...	4
Genu Varum and Coxa Vara ...	2
Generalised	36
Acute	10
Renal	1
Inflammations—	
Arthritis	6
Arthritis Suppurative	11
Arthritis Infective	23
Periostitis and Osteitis	9
Perthe's Disease	6
Synovitis	21
Bursitis	16
Epiphysitis	2
Pyæmia	1
Schlatter's Disease	7
Osteomyelitis	12
Dactylitis	1
Other	9
Tuberculosis—	
Active—Knee	1
Hip	2
Ankle	3

Old—Knee	3
Spine	12
Hip...	12
Elbow	1
Ankle	2
Scaphoid	1
Shoulder	1
Multiple	2
Tumours—	
Exostosis—Lower Limb ...	29
Naevus	1
Sarcoma	1
Ganglion	20
Chondroma	3
Fibroma	3
Lipoma	1
Cyst	6
Unclassified	3
Nervous Diseases—	
Mental Deficiency	12
Other	9
Miscellaneous—	
Köhler's Disease	3
General Muscular Hypotonia ...	2
Hemihypertrophy	4
Malnutrition	1
Unclassified	193
	4,326

The following table shows concisely the work done during the year in the Hospitals with which the Committee has arrangements :—

Defect.	No. of Cases treated.	Cured.	Improved.	Improving.	Refused Treatment.	Stationary.
Infantile Paralysis	28	1	24	2	...	1
Spastic Paralysis	14	...	11	1	...	2
Birth Palsy	2	1	1	...	...	...
Deformities—						
Congenital	49	8	38	3	...	...
Traumatic	7	2	4	1	...	...
Other	37	4	28	2	...	3
Rickets	23	14	8	...	...	1
Inflammations—						
Arthritis	4	...	3	1	...	...
Osteomyelitis	5	...	1	4	...	...
Osteitis	1	...	1	...	...	...
Periostitis	2	1	...	1	...	...
Tumours	2	2	...	...	...	...
Totals	174	33	119	15	...	7

BIDDULPH GRANGE ORTHOPÆDIC HOSPITAL.

The Biddulph Orthopædic Hospital is situated in North Staffordshire, 28 miles South of Manchester, in completely rural surroundings. With the march of time it has been found necessary to undertake the erection of a new "hospital" block and the work is now in progress. It is anticipated that it will be completed during the next few months and a full description of the hospital will be given in next year's Report. Particulars of the cases admitted to the hospital during 1938 follow.

Admissions—

During the year 111 children were admitted to Hospital. The following table gives details of the defects from which these children were suffering. Some children are classified under more than one heading :—

(*A*) *Congenital Defects.*

(*a*) Congenital Talipes Equino-varus		10	
(*b*) Congenital Talipes Calcaneo-valgus		2	
(*c*) Congenital Dislocation Hip		7	
(*d*) Torticollis		7	
(*e*) Spina Bifida		5	
(*f*) Syndactylism		2	
(*g*) Sternomastoid Tumour		1	
(*h*) Congenital Brevis-collis		1	
		—	35

(*B*) *Diseases of the Nervous System.*

(*a*) Anterior Poliomyelitis—			
(i) Acute	3		
(ii) Subacute	–		
(iii) Chronic with deformities—			
Paresis Arms	2		
Paresis Legs	12		
Scoliosis	1		
Talipes Equino-varus	2		
Pes Cavus	2		
Talipes Calcaneo-valgus	1		
Genu Valgum	2		
	—	25	
(*b*) Spastic paralysis—			
(i) Monoplegia	1		
(ii) Hemiplegia	4		
(iii) Diplegia	3		
	—	8	
(*c*) Peroneal Spasm		1	
		—	34

(*C*) *Affections of Bone.*

(*a*) Scoliosis—			
(i) Cause unknown	3		
(ii) Poliomyelitis	1		
	—	4	
(*b*) Old Fractures		2	
(*c*) Kyphosis		1	
		—	7

(*D*) *Affections of Joints.*

(*a*) Pseudo-coxalgia		3	
(*b*) T.B. Joint.—Old T.B. Knee		1	
(*c*) Arthritis (Suppurative)		9	
(*d*) Myodystrophia Foetalis		1	
(*e*) Internal Derangement Knee		1	
(*f*) Acute Synovitis—			
(i) Hip	1		
(ii) Knee	1		
(iii) Ankle	1		
	—	3	
(*g*) Slipped Epiphysis		2	
		—	20

(*E*) *General Affections of the Skeleton.*

Rickets—			
(i) Acute	1		
(ii) Healed with deformity—Genu Varum	7		
(iii) Fracture due to Rickets (Tibia)	1		
		—	9

(*F*) *Affections of Nerves.*

(*a*) Ulnar Nerve	1	
(*b*) Erb's Palsy	1	
(*c*) Median Nerve	1	
(*d*) Birth Injuries, Cerebral Diplegia	1	
	—	4

(*G*) *Affections of Soft Tissue.*

(*a*) Congenital Hypertrophy, Muscles of Leg	1	
(*b*) Hæmangioma Thumb	1	
(*c*) Acute Cellulitis Leg	1	
	—	3

(*H*) *Acquired Deformities.*

(*a*) Pes Cavus	9	
(*b*) Talipes Equino-varus	1	
(*c*) Pes Planus	1	
(*d*) Traumatic Equinus Deformity, Feet	1	
(*e*) Hammer Toes	1	
(*f*) Hallux Valgus	3	
	—	16
		128

Operations—

The following table shows the number and character of the operations performed during the year ended 31st December, 1938.—

(*A*) *Congenital Defects.*

(*a*) Midtarsal Arthrodesis	8	
(*b*) Manipulation, Hip	6	
(*c*) Open Tenotomy Sterno Mastoid	2	
(*d*) Subcutaneous Tenotomy Sternomastoid	4	
(*e*) Ablation Insertion Trapezius Muscle for Congenital Brevis-collis	1	
(*f*) Plantar Fasciotomy and Wrench for C.T.E.V.	5	
	—	26

(*B*) *Diseases of Nervous System.*

1.—Due to Anterior Poliomyelitis—		
(*a*) Stabilisation Foot	5	
(*b*) Arthrodesis Shoulder	1	
(*c*) Spinal Fusion	3	
(*d*) Plantar Fasciotomy and Wrench	4	
(*e*) Tendon Transplantation	3	
(*f*) Osteoclasis Radius and Ulna	1	
(*g*) Femoral Osteotomy	1	
(*h*) Arthrodesis Foot for Pes Planus	1	
2.—Due to Spastic Paralysis—		
(*a*) Elongation Tendo Achillis	2	
(*b*) Stabilisation Foot	10	
	—	31

(*C*) *Affections of Bone.*

(*a*) Spinal Fusion	1	
(*b*) Displaced Lower Radial Epiphysis (Manipulation)	1	
	—	2

(*D*) *Affections of Joints.*

(*a*) Biopsy Iliac Glands	1	
(*b*) Ablation Femoral Epiphyses	2	
(*c*) Arthoplasty (Elbow)	1	
(*d*) Excision Head of Radius	1	
	—	5

(*E*) *General Affections of Skeleton.*

(*a*) Femoral Osteotomy	7	
(*b*) Osteoclasis (Tibial)	10	
(*c*) Tibial Osteotomy	1	
	—	18

(*F*) *Affections of Nervous Tissue.*

(*a*) Exploration Median and Ulnar Nerves	1	
(*b*) Meningocele	2	
(*c*) Exploration Peroneal Nerve and Suture	1	
		4

(*G*) *Affections of Soft Tissue*

(*a*) Exploration Thigh	2	
(*b*) Excision Sinus	1	
(*c*) Excision Hæmangioma (Thumb)	1	
(d) Syndactylism	4	
(*e*) Sequestrectomy	1	
(*f*) Amputation Finger (Osteomyelitis)	1	
		10

(*H*) *Acquired Deformities.*

(*a*) Manipulation Hip	1	
(*b*) Plantar Fasciotomy and Wrench for Pes Cavus	7	
(*c*) Arthrodesis for Contracted Toes	2	
(*d*) Midtarsal Arthrodesis for Pes Cavus	9	
(*e*) Arthrodesis Hip	1	
(*f*) Correction Hallux Valgus	4	
(*g*) Pedicle Graft for Traumatic Ulcer and Stabilisation Foot	1	
		25
		121

The number of treatments given in the Massage Department was 6,674.

Massage only	2,179
Electrical	253
Radiant Heat	462
Exercises	3,780

The Position of Artificial Light Treatment.

Clinics have been established at Ashton-under-Lyne, Atherton, Chorley, Horwich and Westhoughton for the treatment by artificial light of certain children in subnormal health and during the year 220 children received this form of treatment, making 4,325 attendances.

It should be realised, however, that this form of treatment is not a panacea. Evidence of the conditions in which it is likely to be useful is gradually being accumulated. For this reason each year there is included in this report particulars of all cases treated.

Summary of Cases Treated at the Ashton-under-Lyne Artificial Light Clinic During 1938.

Case.	Age in Years.	Sex.	Diagnosis.	Type of Lamp.	Body Surface Exposed.	Total Period of Treatment.	Average Dose per Treatment.	Number of Doses.	Total Dosage.	Other Treatment at same time.	Observations.	Gain or Loss in Weight.
J.A.	9	F.	Cervical Adenitis	Mercury Vapour	Complete	5 months	15 Mins.	35	522 Mins.	Cod Liver Oil and Malt. Iodex.	Much improved. Glands receded.	Gained 2 lbs.
P.K.	3	M.	Cervical Adenitis	,,	,,	4 ,,	17 ,,	31	530 ,,	Cod Liver Oil Emulsion	General condition and glands improved ...	Gained 1 lb.
G.E.M.	10	M.	Cervical Adenitis	,,	,,	3 ,,	16 ,,	22	354 ,,	None	Glands receded. General health improved ...	Gained 3 lbs.
G.M.	12	M.	Debility after Tonsillectomy	,,	,,	3 ,,	17½ ,,	28	490 ,,	None ...	Improved. Catarrhal deafness and naso-pharyngeal catarrh subsided	Gained 2 lbs.
A.T.	1	M.	Rachitis	,,	,,	4 ,,	14 ,,	28	392 ,,	Cod Liver Oil ... Emulsion	Rickets became inactive. General condition much improved	Gained 7 lbs.
C.T.	10	M.	Debility after Chicken Pox	,,	,,	3 ,,	17 ,,	26	450 ,,	Cod Liver Oil and Malt	Much improved	Gained 1 lb.
J.B.	5	F.	Debility and Cervical Adenitis	,,	,,	4 ,,	9 ,,	30	265 ,,	Cod Liver Oil Emulsion	Discharged, much improved	Gained 2 lbs.
B.B.	6/12	M.	Rickets	,,	,,	2 Weeks	3 ,,	5	17 ,,	Cod Liver Oil Emulsion	Developed Measles, treatment suspended ...	—
A.B.	6	M.	Anæmia, Enuresis	,,	,,	2 Months	8 ,,	16	132 ,,	Cod Liver Oil Emulsion	Not improved, developed chicken pox ...	No change.
A.V.B.	5	M.	Debility	,,	,,	3 ,,	8 ,,	25	213 ,,	Cod Liver Oil Emulsion	Discharged, condition good	Gained 3 lbs.
W.J.	9½	M.	Debility	,,	,,	3 ,,	8 ,,	20	171 ,,	Cod Liver Oil and Parrish's	General condition greatly improved	Gained 2 lbs.
D.D.	1¾	M.	Marasmus	,,	,,	1 ,,	5 ,,	9	50 ,,	Cod Liver Oil and Parrish's	Not improved, frequent vomiting, discontinued	—
D.M.	1½	F.	Rickets	,,	,,	2½ ,,	10 ,,	11	110 ,,	Iron Tonic ...	Under treatment for advanced rickets 12 months ago. Much improved on second course of treatment	—
B.R.	2½	M.	Rickets	,,	,,	3 ,,	7 ,,	20	139 ,,	Cod Liver Oil and Parrish's	Much improved	Gained 2 lbs.
R.T.	1½	M.	Genu Valgum	,,	,,	2 ,,	7 ,,	13	89 ,,	Halibut Liver Oil	Much improved	—
E.T.	3½	F.	Post Measles Debility ...	,,	,,	2 ,,	8 ,,	16	129 ,,	Cod Liver Oil and Parrish's	General condition improved, but slight cough still present	Gained 2 lbs.
B.B.	2	F.	Cervical Adenitis	,,	,,	1 Week	9 ,,	3	27 ,,	None	Discharged. General condition good	Gained.
M.B.	3	F.	Anæmia and Rickets ...	,,	,,	1 ,,	9 ,,	3	27 ,,	Massage... ...	Discontinued radiation ; continued massage	N.W.
A.H.	3	M.	Bronchitis, debility ...	,,	,,	3 Months	9 ,,	26	234 ,,	None	Discharged, much improved	—

SUMMARY OF CASES TREATED AT THE ASHTON-UNDER-LYNE ARTIFICIAL LIGHT CLINIC DURING 1938.—*Continued.*

Case.	Age in Years.	Sex.	Diagnosis.	Type of Lamp.	Body Surface Exposed.	Total Period of Treatment.	Average Dose per Treatment	Number of Doses	Total Dosage	Other Treatment at same time.	OBSERVATIONS.	Gain or Loss in Weight.
E.H.	4	M.	Chorea	Mercury Vapour	Complete	3 Months	9 Mins.	26	234 Mins.	None	Discharged, much improved	—
J.K.	4	M.	Rickets	,,	,,	3½ ,,	5½ ,,	28	154 ,,	None	Discharged, general condition good	—
M.K.	3	F.	Rickets	,,	,,	3½ ,,	5½ ,,	28	154 ,,	None	Discharged, general condition good	—
A.K.	2	F.	Rickets	,,	,,	1 ,,	9 ,,	15	135 ,,	None	Discharged. Legs straighter	Gained 1 lb.
B.L.	3	M.	Debility	,,	,,	3 ,,	8 ,,	21	168 ,,	None	One month's remission.—Treatment not completed	—
J.L.	4	F.	Debility and Convulsions ...	,,	,,	2½ ,,	8 ,,	18	164 ,,	None	General condition good, no convulsions. Discharged	—
F.D.P.	1	F.	Rickets	,,	,,	3 Weeks	4 ,,	6	24 ,,	None	—	—
M.R.	6	F.	Enuresis and Debility ...	,,	,,	2 Months	7½ ,,	15	113 ,,	None	Discontinued	Gained 1½ lbs.
K.S.	2	M.	Marasmus	,,	,,	—	3 ,,	1	3 ,,	None	—	—
H.S.	1	M.	Marasmus	,,	,,	—	3 ,,	1	3 ,,	None	—	—

Summary of Cases Treated at the Atherton Artificial Light Clinic During 1938.

Case.	Age in Years.	Sex.	Diagnosis.	Type of Lamp.	Body Surface Exposed.	Total Period of Treatment.	Average Dose per Treatment.	Number of Doses.	Total Dosage.	Other Treatment at same time.	Observations.	Gain or Loss in Weight.
H.G.	3	M.	Debility	Mercury Vapour	Complete	12 Weeks	11 Mins.	28	5 Hrs.	None	Improvement	Gained 2 lb. 7 ozs.
R.N.	1	M.	Debility	,,	,,	10 Months	12 ,,	78	15 ,,	None	Improvement	Gained 8 lb. 2 ozs.
H.W.	4	M.	Adenitis	,,	,,	7 Weeks	7 ,,	14	1½ ,,	None	Improvement	Gained 1 lb. 7 ozs.
B.K.	2	M.	Debility	,,	,,	3 ,,	4 ,,	5	20 Mins.	None	Status quo	Gained 6 ozs.
J.C.	1	F.	Rickets	,,	,,	3 ,,	4 ,,	5	20 ,,	None	Status quo	Gained 7 ozs.
H.T.	2	M.	Rickets	,,	,,	5 Months	8 ,,	49	6 Hrs.	Cod Liver Oil	Improvement	Gained 4 lb. 1 oz.
A.R.	3	F.	Rickets	,,	,,	2 ,,	7 ,,	16	1½ ,,	None	Improvement	Gained 1 lb. 8 ozs.
M.T.	3	F.	Adenitis	,,	,,	10 Weeks	9 Mins.	20	3 ,,	None	Status quo	Gained 8 ozs.
J.H.	1	M.	Rickets	,,	,,	4 ,,	4 ,,	6	24 Mins.	None	Status quo	Gained 2 ozs.
J.S.	2	M.	Rickets	,,	,,	19 ,,	10 ,,	38	6 Hrs.	None	Improvement	Gained 1½ lbs.
W.B.	1	M.	Rickets	,,	,,	11 ,,	8 ,,	20	3 ,,	None	Improvement	Gained 2 lbs.
F.B.	3	M.	Debility	,,	,,	3 ,,	3 ,,	4	12 Mins.	None	Status quo	No gain.
M.M.	1	M.	Rickets	,,	,,	4 Months	11 ,,	30	5 Hrs.	None	Improvement	Gained 1 lb.
T.D.	1	M.	Rickets	,,	,,	6 ,,	8 Mins.	41	5 ,,	Glucose "D"	Improvement	Gained 2½ lbs.
D.S.	1	F.	Rickets	,,	,,	8 Weeks	7 Mins.	13	1½ ,,	None	Improvement	Gained 1½ lbs.
C.H.	3	F.	Debility	,,	,,	9 ,,	8 ,,	19	2½ ,,	None	Improvement	Gained 1 lb.
A.G.	2	F.	Debility	,,	,,	14 ,,	11 ,,	32	5 ,,	Cod Liver Oil	Improvement	Gained 2 lb.
L.S.	3	M.	Adenitis	,,	,,	9 ,,	9 ,,	20	3 ,,	None	Improvement	Gained 1 lb.
G.D.	3	M.	Rickets	,,	,,	5 ,,	5 ,,	11	1 ,,	None	Status quo	No gain.

Summary of Cases Treated at the Atherton Artificial Light Clinic During 1938.—*Continued.*

Case.	Age in Years.	Sex.	Diagnosis.	Type of Lamp.	Body Surface Exposed.	Total Period of Treatment.	Average Dose per Treatment.	Number of Doses.	Total Dosage.	Other Treatment at same time.	Observations.	Gain or Loss in Weight.
K.P.	1	M.	Rickets	Mercury Vapour	Complete	6 Months	8 Mins.	49	6 Hrs.	Glucose " D "	Improvement	Gained 4½ lbs.
D.H.	1	M.	Debility	,,	,,	5 ,,	8 ,,	39	5 ,,	None	Improvement	Gained 3½ lbs.
H.N.	3	F.	Debility	,,	,,	5 ,,	8 ,,	38	5 ,,	Glucose " D "	Improvement	Gained 3 lbs.
A.R.	1	F.	Debility	,,	,,	9 Weeks	9 ,,	19	3 ,,	None	Improvement	Gained 1¾ lbs.
D.W.	5/12	M.	Debility	,,	,,	12 ,,	8 ,,	24	3 ,,	None	Improvement	Gained 2½ lbs.
J.G.	2	M.	Debility	,,	,,	2 ,,	2 ,,	3	6 Mins.	—	—	—
B.H.	1	F.	Adenitis	,,	,,	14 ,,	9 ,,	28	4 Hrs.	None	Improvement	Gained 2 lbs.
M.H.	1	F.	Rickets	,,	,,	12 ,,	8 ,,	22	3 ,,	None	Improvement	Gained 2¼ lbs.
J.T.	2	F.	Rickets	,,	,,	9 ,,	7 ,,	18	2 ,,	None	Improvement	Gained 1 lb.
M.T.	1	F.	Debility	,,	,,	7 ,,	7 ,,	13	1½ ,,	None	Improvement	Gained ¾ lb.
J.J.	1	F.	Debility	,,	,,	2 ,,	2 ,,	4	8 Mins.	—	—	—
B.H.	1	M.	Debility	,,	,,	1 ,,	2 ,,	2	4 ,,	—	—	—
W.H.	1	M.	Catarrhal	,,	,,	9 ,,	7 ,,	19	2½ Hrs.	None	Improvement	Gained 1¼ lbs.
M.T.	1	F.	Rickets	,,	,,	6 ,,	6 ,,	12	1½ ,,	None	Improvement	Gained ¾ lb.
E.M.	4	M.	Rickets	,,	,,	3 ,,	3 ,,	5	15 Mins.	None	Status quo...	No Gain.
W.C.	2	F.	Debility	,,	,,	7 ,,	6 ,,	14	1½ Hrs.	None	Improvement	Gained 1 lb.
D.A.	1	M.	Debility	,,	,,	7 ,,	5 ,,	8	40 Mins.	None	Improvement	Gained 1¼ lbs.
P.F.	2	F.	Debility	,,	,,	8 ,,	7 ,,	16	1½ Hrs.	None	Improvement	Gained 1½ lbs.
C.B.	2	F.	Anæmia	,,	,,	5 ,,	6 ,,	10	1 ,,	None	Improvement	Gained ¾ lb.

Summary of Cases Treated at the Atherton Artificial Light Clinic During 1938.—*Continued.*

Case.	Age in Years.	Sex.	Diagnosis.	Type of Lamp.	Body Surface Exposed.	Total Period of Treatment.	Average Dose per Treatment.	Number of Doses.	Total Dosage.	Other Treatment at same time.	Observations.	Gain or Loss in Weight.
D.L.	1	F.	Debility	Mercury Vapour	Complete	5 Weeks	6 Mins.	9	¾ Hr.	None	Status quo	Gained ½ lb.
T.S.	1	M.	Debility	,,	,,	5 ,,	6 ,,	10	1 ,,	—	—	No Gain.
M.C.	1	F.	Adenitis	,,	,,	5 ,,	6 ,,	10	1 ,,	None	Status quo	Gained ¾ lb.
D.A.	10/12	M.	Rickets	,,	,,	3 ,,	4 ,,	6	¾ ,,	None	Improvement	Gained 9 ozs.
B.F.	1	F.	Rickets	,,	,,	3 ,,	4 ,,	5	20 Mins.	None	Improvement	Gained ¾ lb.
R.A.	1	F.	Rickets	,,	,,	2 ,,	3 ,,	4	12 ,,	—	—	—
H.R.	2	M.	Rickets	,,	,,	1 ,,	2 ,,	1	2 ,,	—	—	—
C.S.	9	M.	Adenitis	,,	,,	3 Months	10 ,,	28	5 Hrs.	None	Improvement	Gained 1½ lbs.
K.J.	4	F.	Debility	,,	,,	6 Weeks	6 ,,	11	1 ,,	None	Status quo	Gained 10 ozs.
A.H.	6	M.	Debility	,,	,,	3 Months	10 ,,	27	5 ,,	None	Improvement	Gained 1½ lbs.
R.D.	6	M.	Debility	,,	,,	6 ,,	9 ,,	50	9 ,,	None	Marked improvement	Gained 3 lbs. 10 ozs
F.H.	3	M.	Debility	,,	,,	3 Weeks	4 ,,	5	20 Mins.	None	Status quo	Gained 7 ozs.
E.S.	7	F.	Debility	,,	,,	7 Months	10 ,,	54	10 Hrs.	Cod Liver Oil	Marked improvement	Gained 5 lbs. 2 ozs.
T.B.	12	M.	Debility	,,	,,	3 ,,	9 ,,	23	4½ ,,	None	Improvement	Gained 2 lbs 10 ozs.
G.H.	5	M.	Debility	,,	,,	4 ,,	10 ,,	27	5 ,,	None	Improvement	Gained 2 lbs 12 ozs.
E.H.	8	F.	Debility	,,	,,	11 ,,	12 ,,	82	16 ,,	None	Improvement	Gained 7 lbs. 2 ozs.
E.G.	8	F.	Adenitis	,,	,,	7 ,,	10 ,,	54	10 ,,	None	Improvement	Gained 3 lbs 7 ozs.
R.B.	7	M.	Debility	,,	,,	3 Weeks	5 ,,	7	35 Mins.	None	Status quo	Gained 6 ozs.
F.C.	4	M.	Debility	,,	,,	4 Months	11 ,,	32	5 Hrs.	Glucose " D "	Improvement	Gained 2 lbs 9 ozs.

SUMMARY OF CASES TREATED AT THE ATHERTON ARTIFICIAL LIGHT CLINIC DURING 1938.—*Continued.*

Case.	Age in Years.	Sex.	Diagnosis.	Type of Lamp.	Body Surface Exposed.	Total Period of Treatment.	Average Dose per Treatment.	Number of Doses.	Total Dosage.	Other Treatment at same time.	OBSERVATIONS.	Gain or Loss in Weight.
R.K.	4	M.	Adenitis	Mercury Vapour	Complete	3 Months	8 Mins.	19	2½ Hrs.	Cod Liver Oil ...	Improvement	Gained 2 lbs 4 ozs.
R.P.	4	M.	Debility	,,	,,	3 ,,	8 ,,	19	2½ ,,	None	Improvement	Gained 2 lbs 7 ozs.
M.L.	6	F.	Debility	,,	,,	6 Weeks	6 ,,	11	1 ,,	None	Improvement	Gained 15 ozs.
J.M.	9	M.	Catarrhal	,,	,,	4 Months	10 ,,	33	5½ ,,	None	Status quo	Gained 1¾ lbs.
G.H.	6	M.	Debility	,,	,,	9 ,,	11 ,,	72	13 ,,	None	Improvement	Gained 5 lbs 3 ozs.
D.B.	7	M.	Debility	,,	,,	3 ,,	9 ,,	26	5 ,,	None	Improvement	Gained 1½ lbs.
M.J.	5	F.	Rickets	,,	,,	8 ,,	10 ,,	64	10 ,,	None	Improvement	Gained 4 lbs 3 ozs.
F.G.	9	M.	Debility	,,	,,	4 ,,	11 ,,	34	5 ,,	None	Improvement	Gained 2 lbs.
C.H.	9	M.	Debility	,,	,,	6 ,,	9 ,,	51	9 ,,	None	Improvement	Gained 3 lbs 2 ozs.
W.W.	5	M.	Catarrhal	,,	,,	2 ,,	6 ,,	11	1 ,,	None	Improvement	Gained 1 lb. 2 ozs.
F.O.	4	M.	Debility	,,	,,	4 ,,	11 ,,	32	5½ ,,	Cod Liver Oil ...	Improvement	Gained 2 lbs 10 ozs.
H.C.	9	F.	Debility	,,	,,	3 ,,	9 ,,	24	5 ,,	None	Improvement	Gained 1 lb. 9 ozs.
A.W.	8	M.	Debility	,,	,,	3 ,,	10 ,,	32	5 ,,	None	Improvement	Gained 2 lbs.
E.S.	5	F.	Debility	,,	,,	5 ,,	8 ,,	35	4½ ,,	None	Improvement	Gained 3 lbs 2 ozs.
H.G.	4	M.	Debility	,,	,,	3 ,,	8 ,,	22	3 ,,	None	Improvement	Gained 2 lbs 2 ozs.
A.R.	3	F.	Debility	,,	,,	2 ,,	7 ,,	17	2 ,,	None	Improvement	Gained 1 lb. 8 ozs.
J.E.	9	M.	Debility	,,	,,	6 ,,	8 ,,	41	5½	Glucose "D" ...	Improvement	Gained 3 lbs 2 ozs.
M.R.	6	F.	Debility	,,	,,	7 ,,	9 ,,	48	6 ,,	None	Improvement	Gained 3 lbs 7 ozs.
J.N.	5	F.	Debility	,,	,,	7 ,,	9 ,,	49	6 ,,	None	Improvement	Gained 4 lbs 2 ozs.

Summary of Cases Treated at the Atherton Artificial Light Clinic During 1938.—*Continued.*

Case.	Age in Years.	Sex.	Diagnosis.	Type of Lamp.	Body Surface Exposed.	Total Period of Treatment.	Average Dose per Treatment.	Number of Doses.	Total Dosage.	Other Treatment at same time.	Observations.	Gain or Loss in Weight.
H.R.	3	M.	Debility	Mercury Vapour	Complete	6 Months	8 Mins.	41	5½ Hrs.	None	Improvement	Gained 3 lbs 9 ozs.
L.H.	5	F.	Debility	,,	,,	4 ,,	11 ,,	33	5 ,,	None	Improvement	Gained 3 lbs 1 oz.
S.D.	3	F.	Debility	,,	,,	4 ,,	11 ,,	32	5 ,,	None	Improvement	Gained 2 lbs 12 ozs.
R.A.	5	M.	Debility	,,	,,	3 ,,	10 ,,	25	5 ,,	None	Improvement	Gained 2 lbs 1 oz.
H.S.	6	M.	Debility	,,	,,	3 ,,	9 ,,	20	3 ,,	None	Improvement	Gained 2 lbs 5 ozs.
D.P.	6	M.	Debility	,,	,,	2 ,,	7 ,,	12	1½ ,,	None	Status quo	Gained 1 lb. 1 oz.
D.Y.	3	M.	Rickets	,,	,,	1 Week	...	...	...	—	—	—
F.S.	7	M.	Debility	,,	,,	2 Months	7 ,,	13	1½Hrs.	None	Improvement	Gained 1 lb. 8 ozs.
J.L.	4	M.	Debility	,,	,,	2 ,,	7 ,,	14	1½ ,,	None	Improvement	Gained 1 lb. 10 ozs.
F.G.	8	M.	Debility	,,	,,	2 ,,	7 ,,	15	1½ ,,	None	Status quo	Gained 1 lb. 2 ozs.
A.C.	4	M.	Debility	,,	,,	2 ,,	7 ,,	13	1½ ,,	None	Improvement	Gained 1 lb. 7 ozs.
M.C.	4	M.	Debility	,,	,,	2 ,,	7 ,,	13	1½ ,,	None	Improvement	Gained 1 lb. 4 ozs.
C.M.	5	M.	Debility	,,	,,	2 ,,	7 ,,	12	1½ ,,	None	Improvement	Gained 1 lb. 7 ozs.
F.N.	6	M.	Debility	,,	,,	6 Weeks	6 ,,	11	1 ,,	None	Improvement	Gained 1 lb. 1 oz.
E.R.	5	M.	Adenitis	,,	,,	6 ,,	6 ,,	11	1 ,,	None	Improvement	Gained 1 lb. 3 ozs.
G.G.	7	M.	Debility	,,	,,	6 ,,	6 ,,	11	1 ,,	None	Improvement	Gained 1 lb. 2 ozs.
D.S.	7	M.	Malnutrition	,,	,,	6 ,,	6 ,,	11	1 ,,	None	Improvement	Gained 1 lb. 4 ozs.
R.B.	8	M.	Debility	,,	,,	6 ,,	6 ,,	11	1 ,,	None	Status quo	Gained 1 lb. 1 oz.
N.C.	3	F.	Rickets	,,	,,	6 ,,	6 ,,	11	1 ,,	Glucose " D "	Improvement	Gained 1 lb. 4 ozs.

SUMMARY OF CASES TREATED AT THE ATHERTON ARTIFICIAL LIGHT CLINIC DURING 1938.—*Continued.*

Case.	Age in Years.	Sex.	Diagnosis.	Type of Lamp.	Body Surface Exposed.	Total Period of Treatment.	Average Dose per Treatment.	Number of Doses.	Total Dosage.	Other Treatment at same time.	OBSERVATIONS.	Gain or Loss in Weight.
J.P.	8	M.	Debility	Mercury Vapour	Complete	4 Weeks	4 Mins.	5	20 Mins.	None	Improvement	Gained 10 ozs.
R.R.	3	F.	Rickets	,,	,,	4 ,,	4 ,,	5	20 ,,	Cod Liver Oil ...	Improvement	Gained 9 ozs.
J.C.	7	F.	Psoriasis	,,	,,	3 ,,	4 ,,	5	20 ,,	None	—	Gained 8 ozs.
M.S.	11	F.	Debility	,,	,,	3 ,,	4 ,,	5	20 ,,	None	—	Gained 9 ozs.
R.H.	3	F.	Debility	,,	,,	2 ,,	3 ,,	4	12 ,,	None	—	—
C.F.	6	M.	Debility	,,	,,	2 ,,	3 ,,	3	9 ,,	None	—	—

SUMMARY OF CASES TREATED AT THE CHORLEY ARTIFICIAL LIGHT CLINIC DURING 1938.

Case.	Age in Years.	Sex.	Diagnosis.	Type of Lamp.	Body Surface Exposed.	Total Period of Treatment.	Average Dose per Treatment.	Number of Doses.	Total Dosage.	Other Treatment at same time.	OBSERVATIONS.	Gain or Loss in Weight.
E.S.	3	F.	Cervical Adenitis	C.A.	B. & F.	1 Day	Mins. 2 B.&F.	1	4 Mins.	C.L.O.M. and Parrish's	—	—
B.C.	4	F.	Cervical Adenitis	C.A. & M.V.	B. and F. and Neck	6 Months	10 ,, 5 M.V.	30	700 ,,	Cod Liver Oil	Transferred to T.B. Clinic	Gained 1 lb.
W.H.	6	M.	Debility	C.A.	B. and F.	2 ,,	5 B.&F.	15	150 ,,	C.L.O.M.	General condition improved, no cough	Gained 1½ lbs.
F.H.	1	M.	Debility	,,	,,	2 ,,	10 ,,	24	480 ,,	C.L.O.M. and Parrish's	Much improved	Gained 1 lb.
L.P.	8	F.	Cervical Glands	C.A. & M.V.	B. and F. and Neck	2 ,,	5 B.&F. 3 M.V.	10	130 ,,	C.L.O.M. and Parrish's	Transferred to T.B. Clinic	Gained 3 lbs.
M.P.	2	F.	Cervical Glands	C.A.	B. and F.	6 ,,	10 B.&F.	40	800 ,,	C.L.O.M. and Parrish's	Sinus dry, no adenitis	Gained 2 lbs.
J.T.	5	M.	Cervical Glands	C.A. and M.V.	B. and F. and Neck	4 ,,	10 B.&F. 5 M.V.	40	920 ,,	(?)	Glands just palpable	Gained 2 lbs.
P.B.	8	M.	Cervical Glands	,,	,,	10 ,,	10 B.&F. 3 M.V.	60	1380 ,,	Vita Malt	Scar healed and dry	Gained 3¼ lbs.
G.G.	1	F.	Post Pertussis	C.A.	B. and F.	3 ,,	8 B.&F.	26	416 ,,	None	No cough. general condition improved	Gained 2 lbs.
E.E.	2	F.	Post Pneumonia	,,	,,	8 ,,	5 ,,	30	300 ,,	None	Much improved	Gained 5 lbs.
J.D.	2	M.	Chest	,,	,,	3 ,,	5 ,,	24	240 ,,	None	Ceased attending	Gained ½ lb.
L.B.	2	M.	Post Pertussis	,,	,,	1½ ,,	5 ,,	15	150 ,,	None	Ceased attending	Gained 1 lb.
R.B.	2	M.	Rickets	,,	,,	1 Week	3 ,,	4	24 ,,	None	Ceased attending	—
E.A.	8	F.	Chest	,,	,,	3 Months	10 ,,	13	260 ,,	None	Chest clear	Gained 4½ lbs.
S.R.	5	F.	Bronchial Catarrh	,,	,,	5 ,,	10 ,,	47	940 ,,	None	B.S. harsh ; general condition excellent	Gained 3 lbs.
J.L.	4	M.	Debility	,,	,,	4 ,,	8 ,,	25	400 ,,	None	B.S. harsh ; general condition improved	Gained 2 lbs.
S.L.	4	M.	Post Pertussis	,,	,,	3 ,,	5 ,,	15	150 ,,	None	Ceased attending	Gained ½ lb.

SUMMARY OF CASES TREATED AT THE CHORLEY ARTIFICIAL LIGHT CLINIC DURING 1938.—*Continued.*

Case.	Age in Years.	Sex.	Diagnosis.	Type of Lamp.	Body Surface Exposed.	Total Period of Treatment.	Average Dose per Treatment.	Number of Doses.	Total Dosage.	Other Treatment at same time.	OBSERVATIONS.	Gain or Loss in Weight.
J.L.	5	F.	Post Pertussis	C.A.	B. and F.	3 Months	Mins. 5 B. & F.	15	150 Mins.	None	Improved	Gained 1½ lbs.
S.K.	2	F.	Chest	,,	,,	1 ,,	5 ,,	8	80 ,,	None	Ceased attending	—
J.K.	7	F.	Sub-acute Bronchitis ...	,,	,,	1 ,,	5 ,,	8	80 ,,	None	Ceased attending	—
A.J.	1	M.	Post Measles	,,	,,	6 ,,	10 ,,	40	800 ,,	None	Improved	Gained 1 lb.
W.H.	2	M.	Rickets	,,	,,	2½ ,,	5 ,,	10	100 ,,	None	Ceased attending	Gained 1 lb.
M.H.	5	F.	Post Pertussis	,,	,,	1 ,,	8 ,,	14	224 ,,	None	Ceased attending	Gained 1 lb.
B.H.	7/12	M.	Post Pertussis	,,	,,	1 ,,	8 ,,	14	224 ,,	None	Ceased attending	—
D.T.	4	M.	Cervical Glands	,,	,,	3 ,,	10 ,,	34	680 ,,	None	Glands not palpable	—
A.M.	1	M.	Bronchial Catarrh	,,	,,	2 ,,	5 ,,	23	230 ,,	None	Ceased attending	—
D.M.	8	F.	Catarrhal Chest	,,	,,	5 ,,	10 ,,	40	800 ,,	None	Improving	Gained 6 lbs.

SUMMARY OF CASES TREATED AT THE HORWICH ARTIFICIAL LIGHT CLINIC DURING 1938.

Case.	Age in Years.	Sex.	Diagnosis.	Type of Lamp.	Body Surface Exposed.	Total Period of Treatment.	Average Dose per Treatment.	Number of Doses.	Total Dosage.	Other Treatment at same time.	OBSERVATIONS.	Gain or Loss in Weight.
A.E.	5	M.	Anæmia	C.A.	B. and F.	7½ Weeks	7 Mins.	15	105 Mins.	Iron and dietetic	Muscle tone improved, mucous membrane better colour	Lost 2 ozs.
B.T.	5	M.	Post Operative Ts. & As.	,,	,,	9½ ,,	7 ,,	19	133 ,,	Maltoline	Child more active and alert	Gained 2 lbs. 6 ozs.
B.E.	7	M.	Anæmia	,,	,,	1 ,,	7 ,,	2	14 ,,	Syr. Minadex	Improving	Gained 4 ozs.
B.K.	10	M.	Cervical Adenitis	M.V.	Neck	12 ,,	2 ,,	24	48 ,,	Tonics	Glands less	Gained 8 ozs.
C.E.	10	M.	Ulcer, Leg (right)	,,	Leg	6½ ,,	2 ,,	13	26 ,,	—	Status quo	Lost 2 ozs.
C.R.	7	M.	Anæmia (severe)	C.A.	B. and F.	4½ ,,	7 ,,	9	63 ,,	Liver Extract and iron	Membranes improved	Gained 1 lb.
C.F.	8	M.	Malnutrition	,,	,,	7½ ,,	7 ,,	15	105 ,,	Cod Liver Oil and iron	General and sustained improvement	Gained 1 lb. 4 ozs.
D.I.	10	F.	Anæmia	,,	,,	10 ,,	7 ,,	20	140 ,,	Iron	Mucous membranes better colour	Gained 1 lb. 2 ozs.
D.H.	6	M.	Cervical Adenitis	M.V.	Neck	7 ,,	2 ,,	14	28 ,,	Cod Liver Oil	Glands subsiding	Gained 8 ozs.
F.C.	12	M.	Anæmia	C.A.	B. and F.	5 ,,	7 ,,	10	70 ,,	Iron	Improved	Gained 2 lbs 4 ozs.
F.E.	7	F.	Anæmia	,,	,,	21½ ,,	7 ,,	43	301 ,,	Iron	Muscle tone improved. Child now active	Gained 2 lbs. 8 ozs.
G.W.	6	M.	Anæmia	,,	,,	5 ,,	7 ,,	10	70 ,,	Syr. Minadex	Some general improvement	Gained 2 ozs
G.L.	5	F.	Mastoiditis	,,	,,	23½ ,,	7 ,,	47	329 ,,	Sedonin	Cured	Gained 2 lbs. 10ozs
G.J.	10	F.	Cervical Adenitis	M.V.	Neck	13½ ,,	2 ,,	27	54 ,,	Cod Liver Oil	Cured	Gained 12 ozs.
G.R.	6	M.	Anæmia	C.A.	B. and F.	16 ,,	7 ,,	32	224 ,,	Iron	Cured	Gained 12 ozs.
G.H.	5	F.	Cervical Adenitis	M.V.	Neck	9 ,,	2 ,,	18	36 ,,	Cod Liver Oil	Glands less	Gained 6 ozs.
H.K.	6	M.	Anæmia	C.A.	B. and F.	14 ,,	7 ,,	28	196 ,,	Iron	Membranes, activity and muscle tone improved	Gained 3 lbs. 3 ozs.
H.M.	13	F.	Cervical Adenitis	M.V.	Neck	2 ,,	2 ,,	4	8 ,,	Iodex	Glands less	Gained 4 ozs.
J.B.	5	M.	Cervical Adenitis	,,	,,	4 ,,	2 ,,	8	16 ,,	Iodex	Glands much less	Gained 1 lb. 8 ozs.

Summary of Cases Treated at the Horwich Artificial Light Clinic During 1938.—*Continued.*

Case.	Age in Years.	Sex.	Diagnosis.	Type of Lamp.	Body Surface Exposed.	Total Period of Treatment.	Average Dose per Treatment.	Number of Doses.	Total Dosage.	Other Treatment at same time.	Observations.	Gain or Loss in Weight.
K.B.	5	F.	Anæmia	C.A.	B. and F.	36½ Weeks	7 Mins.	73	511 Mins.	Iron	General condition much improved	Gained 2 lbs. 8 ozs.
P.M.	8	M.	Anæmia	,,	,,	7½ ,,	7 ,,	15	105 ,,	Iron	Membranes improved ; appetite improved	Gained 1 lb. 10 ozs.
P.E.	11	F.	Rheumatism	,,	,,	12½ ,,	7 ,,	25	175 ,,	Salicylates ...	Pain less, general condition improved ...	Gained 2 lbs.
P.R.	9	M.	Anæmia	,,	,,	10½ ,,	7 ,,	21	147 ,,	Iron	Cured	Gained 7 ozs.
T.C.	6	M.	Anæmia	,,	,,	7½ ,,	7 ,,	15	105 ,,	Iron	Cured	Gained 1 lb.
T.P.	6	F.	Cervical Adenitis	M.V.	Neck	16 ,,	2 ,,	32	64 ,,	Cod Liver Oil ...	Cured	Gained 5 lbs 6 ozs.
W.J.	8	F.	Anæmia	C.A.	B. and F.	6 ,,	7 ,,	12	84 ,,	Iron	Improved	Gained 4 ozs.

SUMMARY OF CASES TREATED AT THE WESTHOUGHTON ARTIFICIAL LIGHT CLINIC DURING 1938.

Case.	Age in Years.	Sex.	Diagnosis.	Type of Lamp.	Body Surface Exposed.	Total Period of Treatment.	Average Dose per Treatment.	Number of Doses.	Total Dosage.	Other Treatment at same time.	OBSERVATIONS.	Gain or Loss in Weight.
E.G.	4	F.	Cervical Glands	Mercury Vapour	Complete	1½ Months	6 Mins.	11	66 Mins.	Cod Liver Oil	Status quo	Gained ½ lb.
H.Y.	2	F.	Rickets	,,	,,	10 ,,	13 ,,	68	868 ,,	Glucose " D "	Progressive improvement	Gained 3 lbs.
H.U.	2	M.	Debility	,,	,,	9 ,,	8 ,,	70	580 ,,	None	Progressive improvement	Gained 3 lbs 14 ozs.
J.F.	4	M.	Rickets	,,	,,	2 ,,	13 ,,	15	197 ,,	Glucose " D "	Improved	Gained 15 ozs.
K.H.	2	M.	Cervical Glands	,,	,,	2 ,,	8 ,,	16	128 ,,	None	Improved	Gained 2 lbs 2 ozs.
C.M.	1	M.	Rickets	,,	,,	7 ,,	7 ,,	56	418 ,,	None	Improved	Gained 4 lbs 9 ozs.
F.W.	2	M.	Catarrhal	,,	,,	3 ,,	5 ,,	23	120 ,,	Cod Liver Oil	Improved	Gained 1 lb. 7 ozs.
D.J.	2	F.	Anæmia	,,	,,	1 Week	3 ,,	3	9 ,,	None	Ceased due to illness	Lost 6 ozs.
B.E.	1	F.	Pink Disease	,,	,,	3 Months	7 ,,	24	179 ,,	None	Improved	Gained 1 lb. 3 ozs.
M.N.	3	M.	Adenitis	,,	,,	5 ,,	13 ,,	41	523 ,,	Glucose " D "	Much improved	Gained 1 lb. 8 ozs.
N.T.	2	M.	Rickets	,,	,,	2½ ,,	10 ,,	20	203 ,,	None	Improved	Gained 1 lb. 4 ozs.
W.E.	2	M.	Debility	,,	,,	7 ,,	12 ,,	58	719 ,,	Cod Liver Oil	Progressive improvement	Gained 3 lbs. 1 oz.
I.H.	3	F.	Catarrhal	,,	,,	1½ ,,	6 ,,	13	86 ,,	None	Improved	Gained 1 lb. 11 ozs.
A.G.	1	F.	Rickets	,,	,,	7 ,,	13 ,,	54	706 ,,	Glucose " D "	Progressive improvement	Gained 2 lbs 4 ozs.
M.S.	2	F.	Rickets	,,	,,	1½ ,,	8 ,,	14	107 ,,	None	Status quo	Gained 5 ozs.
G.R.	2	M.	Rickets	,,	,,	1¼ ,,	6 ,,	10	63 ,,	None	Status quo	Gained 5 ozs.
E.D.	1	F.	Rickets	,,	,,	3 ,,	10 ,,	24	240 ,,	None	Improved	Gained 1 lb. 2 ozs.
M.C.	1	F.	Rickets	,,	,,	1½ ,,	6 ,,	12	76 ,,	Glucose " D "	Improved	Gained.
D.N.	1	F.	Debility	,,	,,	1¼ ,,	6 ,,	10	63 ,,	None	Improved	Gained.

Summary of Cases Treated at the Westhoughton Artificial Light Clinic During 1938.—*Continued.*

Case.	Age in Years.	Sex.	Diagnosis.	Type of Lamp.	Body Surface Exposed.	Total Period of Treatment.	Average Dose per Treatment.	Number of Doses.	Total Dosage.	Other Treatment at same time.	Observations.	Gain or Loss in Weight.
R.M.	1	M.	Rickets	Mercury Vapour	Complete	4 Weeks	5 Mins.	7	35 Mins.	None	Improved	Gained.
G.L.	1	M.	Debility	,,	,,	2 Months	7 ,,	11	77 ,,	None	Improved	Gained.
F.W.	4	F.	Rickets	,,	,,	10 ,,	13 ,,	73	984 ,,	Cod Liver Oil	Marked improvement	Gained 5 lbs.
B.B.	11	F.	Debility and Anæmia	,,	,,	1 Year	14 ,,	89	1285 ,,	None	Progressive improvement	Gained 4½ lbs.
F.G.	3	M.	T.B. Adenitis	,,	,,	3 Months	6 ,,	19	129 ,,	None	Status quo	Unchanged.
J.M.	5	F.	Adenitis	,,	,,	2 ,,	10 ,,	18	192 ,,	None	Much improved	Gained 1½ lbs.
D.H.	5	M.	T.B. Glands	,,	,,	2 ,,	10 ,,	19	194 ,,	Cod Liver Oil	Status quo	Unchanged.
P.F.	8	F.	Debility	,,	,,	1 Day	2 ,,	1	2 ,,	None	Status quo	Unchanged
V.F.	10	F.	Debility	,,	,,	1 ,,	2 ,,	1	2 ,,	None	Status quo	Unchanged
B.S.	7	M.	Debility	,,	,,	1 ,,	2 ,,	1	2 ,,	None	Status quo	Unchanged.
J.H.	3	M.	Rickets	,,	,,	2 Months	9 ,,	16	141 ,,	Cod Liver Oil	Improved	Gained 1 lb.
S.P.	3	M.	Debility	,,	,,	3 ,,	8 ,,	19	154 ,,	None	Improved	Gained ½ lb.
J.C.	3	F.	Debility	,,	,,	3 ,,	11 ,,	24	269 ,,	None	Improved	Gained ½ lb.
T.R.	9	M.	Anæmia	,,	,,	3 ,,	11 ,,	23	254 ,,	Cod Liver Oil	Marked improvement	Gained 1½ lbs.
D.M.	4	M.	Adenitis	,,	,,	1 ,,	3 ,,	9	28 ,,	None	Slight improvement	Unchanged
M.T.	8	F.	Catarrhal	,,	,,	2 ,,	10 ,,	17	164 ,,	None	Much improved	Gained ½ lb.
P.B.	4	M.	Anæmia—Enlarged Cervical Glands	,,	,,	2½ ,,	10 ,,	19	194 ,,	Cod Liver Oil	Improved	Gained ½ lb.
S.D.	7	M.	Malnutrition	,,	,,	1 ,,	5 ,,	7	35 ,,	Cod Liver Oil	Status quo	Unchanged.

ACCIDENTS TO SCHOOL CHILDREN.

During the year 528 accidents to children in school were reported. This compares with 537, 461, 403, 415 and 385 for the previous five years.

The following first-aid materials are provided on the Schedule of School Supplies :—

Gauze Bandages, 1 in. in lengths of 6 yards.
Gauze Bandages, 2 in. in lengths of 6 yards.
Boric Lint in rolls of 2 ozs.
Cotton Wool in cartons of 4 ozs.
Adhesive Plaster on ½-in. spools, 2½ yards long.
Tannic Acid Jelly in tubes.

INFECTIOUS DISEASES.

The following are the methods adopted for the prevention of infectious diseases :—

1.—The exclusion of children suffering from, or showing symptoms suggestive of, infectious disease, or who may, it is feared, develop disease after exposure to infection ; the power to do this is given by Article 20 (*b*) of the Code.

The exclusion of individual children, as distinct from closure of the whole school, is made by the Committee's own staff.

The exclusion by the Assistant County Medical Officers and Nurses is made on a special form in triplicate. One copy is sent to the Central Office for the approval and counter-signature of the School Medical Officer ; another is left in the school as authorisation for the Head Teacher and School Attendance Officer ; and the third is retained by the Medical Officer or Nurse as a record. The exclusions are made for a specified period, and the children are re-examined at the end of the period, and either re-admitted as fit for school, or excluded for such further period as may be necessary.

In the following table the number of children excluded under Article 20 (*b*) and the causes of exclusion are shown :—

	Scarlet Fever.	Measles	Mumps.	Diphtheria.	Chicken Pox.	Whooping Cough.
Cases ...	10	5	32	8	63	20
Contacts ...	6	75	...	118	12	2

In addition to the exclusions enumerated above 242 children were excluded on account of uncleanliness, 440 on account of scabies, 60 on account of ringworm and 510 on account of impetigo.

2.—The closure of schools or of departments of schools.

During 1938 it was found necessary to close 77 schools on account of the prevalence of infectious disease. Every endeavour has again been made by the Assistant County Medical Officers to work in close co-operation with the local Medical Officers of Health whenever the closure of a school or department was in question.

The following tables show the number of schools which were closed during the year and the causes of closure :—

No. of Schools Closed during 1938 by the Sanitary Authority (Article 22 of the Code).

Measles	23
Measles and Whooping Cough	1
Measles and Chicken Pox	2
Measles and Scarlet Fever	1
Chicken Pox	3
Chicken Pox, Whooping Cough and Colds	1
Diphtheria	8
Diphtheria and Sore Throat	1
Diphtheria and Scarlet Fever	1
Scarlet Fever	2
	43

No. of Schools closed during 1938 by the School Medical Officer (Article 23 (b) of the Code).

Diphtheria	10
Diphtheria and Chicken Pox	1
Diphtheria, Measles, Scarlet Fever and Whooping Cough	1
Scarlet Fever	9
Scarlet Fever and Whooping Cough	1
Measles	12
	34

Frequently requests are made that a school should be closed because the attendance has fallen considerably. The necessity for closure is not always obvious, for in Urban areas the children have opportunities of meeting in other places than the school, and infecting each other.

In such cases, however, the School Medical Officer is empowered, under the Education Act, 1921 (Admin. Memo. No. 51, Art. 15), to give certificates to any school or department where the attendance, on account of the occurrence of Infectious Disease, has fallen below 60 per cent. of the number of children on the Register.

The number of such certificates given during 1938 was 509.

3.—Co-operation with Local Authorities in the conduct of immunisation campaigns.

The importance of immunisation, particularly in the case of Diphtheria, cannot be too strongly stressed. Diphtheria is the greatest single cause of death in children from five to ten years of age. In Lancashire, in 1937, there were altogether 2,855 cases and 153 deaths, giving a fatality rate of 5·35. This terrible toll of young lives could have been prevented.

In the case of Diphtheria, the County Council have agreed to contribute 50 per cent. towards the cost of immunisation carried out by Local Sanitary Authorities, subject to certain conditions which secure that a satisfactory standard of efficiency shall be maintained.

It is intended that every effort should be made to obtain the immunisation of at least 50 per cent. of the child population including pre-school children.

Careful records should be kept of each child, in particular stating the type and amount of prophylactic used, reactions (if any) and the results of Schick tests where performed. The prophylactic recommended is Toxoid-Antitoxin Floccules (T.A.F.) which is given in three doses. At quarterly intervals the names of children who have been immunised will be transmitted to the Assistant County Medical Officer who is responsible for the Child Welfare and School Medical work in that district, for his information.

The Education Committee co-operate with Local Authorities in the conduct of immunisation campaigns in various ways, *viz.* : by talks by Assistant County Medical Officers and by Health Visitors to mothers and school children on the advantages of immunisation, assistance in the actual process of immunisation and the granting of facilities at premises in the hands of the County Council.

It is intended that the help of the general practitioner should be enlisted and in areas where there are a number of general practitioners, a rota should be drawn up of those who would be agreeable to undertake the inoculation of children at a fixed fee per session of 35–40 children. In certain instances the Medical Officer of Health of the District may undertake the treatment himself.

Several Local Authorities are now undertaking immunisation with encouraging results. Apathy on the part of parents is a serious obstacle and there is a great tendency to put off the treatment of children until an outbreak of the disease. Since approximately three months is required for immunity to develop, it is obvious that the time for treatment is during the absence of diphtheria in the district.

One Medical Officer of Health reports :—" There is a tendency for parents to allow their older children, but not their younger children, to be immunised. This is a pity since it is the young child who runs the greater risk of infection by diphtheria, and who is less liable to show any signs of reaction to the treatment."

An interesting comment has been made by several head teachers in areas where immunisation has been carried out, to the effect that such treatment has resulted in an improvement in the school attendance, and that this has been due mainly to a lowered incidence of coughs and colds.

It is difficult to explain the significance of these observations. The table below gives some particulars of absences from school in two rural districts, one (A) where immunisation has been carried out for several years and the other (B) where this has not been practised.

Rural District.	No. of Schools.	No. of children on roll of Elementary Schools.	CASES OF			
			Diphtheria.	Sore Throat.	Bronchitis.	Colds.
A. ...	30	2,736	12	682	186	1,556
		%	0·438	24·926	6·798	56·87
B. ...	16	2,622	37	649	815	2,311
		%	1·41	24·75	31·082	88·13

It will be noted, however, that in District " B " there is a larger average number of children on the roll per school than in District "A", so that the "herds" are bigger in the former which would lead one to expect a higher incidence of infectious disease there.

OPEN-AIR EDUCATION.

The utmost use is made of the opportunities for holding playground classes, particularly in the case of the infants. Nature rambles constitute a valuable adjunct. The Lancashire climate, however, severely restricts this form of Education.

New Infant Schools are being planned on open-air lines in accordance with the newly issued building requirements.

Arrangements are in force with the County Boroughs of Burnley and Preston, and the Municipal Boroughs of Nelson and Swinton and Pendlebury, whereby certain children are enabled to receive education at their Open-Air Schools.

There are no special Open-Air Schools in the area of the Lancashire Education Committee, although the newer schools now offer increased facilities for open-air classes, of which advantage is taken whenever the opportunity arises.

School Camps and School Journeys.

The following is extracted from the Report of the Director of Education :—

A sum of £1,600 was granted to provide financial assistance to Elementary Schools undertaking School Camps and School Journeys under the Committee's Regulations.

Proposals for 78 School Camps and Journeys, received from 96 Elementary Schools, were approved by the Committee, and all of these were carried out substatially in accordance with the programme submitted.

The following table shows the figures for the nine years since the scheme was inaugurated by the Committee :—

Year.	No. of Schools.	Nos. taking part.		Amount paid by Committee.	Total Expenditure.
		Children.	Teachers.	£ s. d.	£ s. d.
1930–31 ...	30	955	76	459 14 0	1,399 0 8
1931–32 ...	54	1,587	107	530 10 0	2,104 0 9
1932–33 ...	37	1,071	97	353 0 4	1,466 19 3
1933–34 ...	36	1,232	113	489 12 4	1,822 11 5½
1934–35 ...	50	1,756	151	905 15 1	2,731 0 11½
1935–36 ...	55	2,159	184	868 2 0	3,126 2 5
1936–37 ...	76	2,833	252	1,276 9 7	3,416 7 8
1937–38 ..	89	2,757	228	1,493 0 2	4,401 16 9½
1938–39 ...	96	3,362	275	1,599 15 6	5,698 11 4

The sites of the Camps for this year were as follows :—

North Wales	31
Staithes (North Riding)	12
Lake District	9
Lancashire Coast	6
East Coast	5
Isle of Man	3
Abroad	2
Glasgow	2
Others	8
	78

Judging from the reports which have been received, the School Camps and School Journeys during the current year have been appreciated by the children who have taken part. While most of the visits were confined to the northern parts of England and Wales, two more ambitious projects were undertaken, a party of boys having been to Norway and a party of girls to Brittany. Despite unfavourable weather in many cases, the change of air and surroundings seems to have proved beneficial to the children, who returned healthier and happier for their experience. Many schools were under canvas, but others visited organised holiday camps, sleeping in huts and having meals prepared for them. Schools camping near to the seaside enjoyed games and walks along the shore. The scholars collected shells, fossils and other interesting objects for the school museums, saw the bustle and activity of ports and docks, bathed and sunbathed. Those camping inland spent much time exploring the countryside for flowers of species unknown at home and climbed mountains, Snowdon having been conquered by many parties this year. Others visited ancient monuments and towns and partook to the fullest extent in the many activities of camp life.

By lessons beforehand on the history and geography of the places to be visited, by the preparation of booklets before and log books after camp, through good food, fresh air and healthy exercise, and by team work and a friendly spirit, the School Camps and Journeys are of value from a physical and educational point of view, and as a training for citizenship. Thanks are due to all those who have given time and thought to their preparation and organisation, and in particular the teachers, many of whom gave up part of their holidays in order that the children might enjoy the benefits of camp life.

PHYSICAL EDUCATION.

The following paper, contributed by Dr. R. W. Eldridge, was read by him at a recent Conference of Organisers of Physical Education :

PHYSICAL EDUCATION FROM THE POINT OF VIEW OF THE SCHOOL MEDICAL OFFICER.

In any discussion on physical education, our thoughts soon turn to that side which relates to children. Though the drive which has been taking place on a national scale for the past year or two has for its aim the improvement of the physical well-being of members of the community of all ages, or at least up to middle age, we all of us feel that it is the children of whom we desire to feel the most sure of all that they have learned the real meaning of physical education. It is then not surprising that this is a subject with which the school medical officer must inevitably come into daily contact, and it is his duty to discern whether any particular method is satisfactory or otherwise in its operation, as it is also his opportunity, by experiment and suggestion, to make his contribution to a good result.

May I first remind you that so far as legislation is concerned, the first interest of the community in the physical condition of school children was with regard to their education. Acts in 1893 and 1899 made it possible for children who were so physically unfit as to be unable to receive their education at an ordinary elementary school, to be taught in special schools for the purpose. A few years later, in 1906, education authorities were empowered to provide free meals for children who required them. It was not until a further Act was passed in the following year that all school children were to be inspected medically at regular intervals and methods for providing means of treatment were initiated. It was this Act, too, which empowered education authorities to provide play centres, and it was, in fact, the first attempt not only to find those children who were physically defective, but to take definite steps for promoting their health.

Subsequent legislation has steadily and increasingly emphasised this wider view of physical improvement, and as a natural corollary the mental and moral improvement of coming generations. From its earlier, limited conception, when it was engaged solely in the narrower field of remedial methods, the School Medical Service has developed a new outlook, concerning itself rather with the prevention of disease and ill-health and the stressing of all those things which conduce to the maintenance of good health, and the assurance, so far as that is possible, of a fit body in later years. This change of outlook which has developed is in many ways a return to the philosophies of the Greeks, and there is much, I think, to encourage us to give it our commendation.

Now it is first necessary to see what the school medical officer considers should be the place to be taken by physical education in the maintenance of health. I think, perhaps, he realises more easily than others that there are many factors involved besides physical education in its accepted sense, vitally important though this be, and especially is this so if he has opportunities to visit the homes of the children, and discuss matters with the parents in their everyday surroundings. It is advisable for us all to bear this constantly in mind so that we shall not be tempted to imagine that adequate physical education is all that is required. Nothing, for example, can fully remedy the ill effects on health, of bad houses, except the provision of good houses, just as nothing can cure the physical disability resulting from dietary deficiencies, apart from supplying these deficiencies in adequate amount.

I recently had occasion to investigate the relative incidence of certain defects, related to general health, in school children from some urban and rural areas in a part of Lancashire. On the face of it, we should reasonably expect that those from country districts, with their much greater opportunity for open-air activity away from crowded areas and a polluted atmosphere would show evidence of better health than their friends in the towns. This was not the case, and though it would be extremely difficult to say with confidence what the chief reason might be, I have no doubt that the fact that housing conditions in the rural areas were worse than in the urban, as is so often the case, was one important factor in producing this result.

I would, of course, agree that physical education, of the right kind, should prove itself to be one of the most potent means we have for promoting health maintenance and improvement.

What is our aim, with regard to the children ? I think you would agree that it is that we should consider our purpose to be the finding of the means whereby each child may experience most happiness in life, viewing happiness always in its widest sense to include service. The school medical officer must surely be interested in more than the recognition of organic signs of ill-health. He too, must consider how each child can be enabled to live a happy and useful life. This is where physical education comes in, for by its means, the children who have been made fit, where this has been necessary, are able to develop, and learn how to keep fit. It may have been thought in the past that it is sufficient if a child has been diligently taught to think, and imbued with the philosophies of life. This is fallacious. Each child must be taught the science and art of being fit. The teaching of physical education is here of the greatest importance and must take its place in the training of all children.

Let us now consider for a moment what the school medical officer understands by physical education. It means, first, all kinds of organised class work in physical training whether in the gymnasium or hall, or outside in the playground, sometimes in the field. It includes competitive games, swimming, and the encouragement of certain forms of open air activity such as running and hiking, which I know are much more difficult to arrange. There are also school camps, which give, perhaps, the best opportunity of all, short though the period be, for introducing boys and girls to the joy and value of an open air life.

There are other things to be kept in mind. Physical education, to attain its best results, must succeed in convincing children that adequate rest is indeed a necessary factor in keeping fit. It is a well-known fact that monotonous exercises are infinitely more tiring than those which are varied, using in turn different groups of muscles. The reason is that any particular muscle can only act at its best for a very short time. It must have its following period of rest and recuperation. In the same way, in a more general sense, a body tired after exercise requires a sufficient period of inactivity to follow, not too long afterwards, if the full benefit is to be gained. I am not, of course, suggesting organised rest in school, except for the very youngest, though even that idea may have more reason in it than we at present suppose. What I do suggest is that physical education will fail, at least in part, if children are not made to understand the paramount importance of sleep.

Suitable clothing is another thing which cannot be omitted from any proper scheme of physical education. It is at last pretty widely accepted that a minimum amount of clothing is desirable for all forms of physical exercise. This not only allows children to perform all kinds of movements unrestricted, it also makes for an easier access of air to the body, and anything approaching air bathing, if we cannot have much sunbathing, is of the utmost value to health. The right kind of footwear is essential for physical training in school and now that education authorities have the power to supply deficiencies in this respect there is little excuse for delay in remedying such an important matter.

The school medical officer has also constantly before him the question of school premises, and their influence on health. Dust, bad ventilation, over-crowding and insufficient space for exercise, for example, are unfortunately some of the drawbacks which are still present in many of our schools. These will have to be removed as soon as possible, otherwise the boy or girl will naturally fail to appreciate any connection between the theory of health as taught in physical training classes and games, and the practice of it in unsuitable school buildings. I feel I ought to men tion, in passing, that it is my experience that even now many of our school teachers are unwilling to put theory into practice in such an important thing as ventilation, but I am fully aware how much they can do and are doing, and how much we depend on teachers.

The principal thought which, to my mind, we should constantly have with us in all these considerations is that we are endeavouring to teach each child not how to develop a brawny arm or an especially fleet foot, but how to look after his or her body so that good health will follow, and through this a fuller, more enjoyable and useful life. We are dealing with individual children each one with its own mental and physical capabilities. This fact raises great difficulties, but so long as we remember that what we are working for in our children is a response, through understanding, we are likely to make progress. They must realise that physical education is not a thing apart, but is something which is essential to a healthy life. What they are taught in their physical education should so impress their minds that they practise certain principles of health throughout their lives. For this reason the school medical officer is bound to regard the teaching of hygiene as complementary to physical education. It is going to be so much better if a child understands a little more of the why and wherefore of correct breathing and of the advantages of properly trained muscles.

I will now turn to the way in which the school medical officer who is actually engaged in medical inspection, is brought into touch with physical education in the schools. What most commonly happens is that a course of physical training is being carried out in the school, and here and there a child is found who complains that he cannot do what is required without some ill-effect such as pains or excessive tiredness, or whom the teacher notices to be responding badly in some way. The school doctor is then called upon to express an opinion as to whether there is any explanation for this disability. One of the common complaints is undue breathlessness after a certain amount of exercise. This is very often due to disease of the lungs or heart. Freshly oxygenated blood cannot be supplied to the body tissues rapidly enough and this means a shortage of oxygen. Physical exercises of any kind which proceeds to a point at which there is distress is doing more harm than good and must be regulated accordingly.

During routine medical inspection a certain number of children are found to have diseased hearts of various grades of severity. One might at first be tempted to bar all those children from physical training in school, but it is found, in fact, that many of them can tolerate exercise perfectly well. Though many cardiac cases must have their exercise curtailed, this is by no means inevitable. In certain valvular diseases it is found that children can do a considerable amount without the occurrence of symptoms. As is so often the case, the real test of the soundness of any organ in the body is to find out how well it can function. There are methods for testing the efficiency of the heart and these are of very great use. However, since individual requirements vary so greatly, it is not always easy to prophesy whether a heart will be able to do, comfortably, what is required of it. I find, and I am sure many others do, that it is only exceptionally that a heart is so severely diseased that all exercise must be precluded, and in these cases the parents generally know all about it. It is in the less severe degrees of cardiac disease, where the parent is not aware that anything is wrong and the child is not conscious of any difficulty that we decide that exercise can be proceeded with cautiously.

I must here mention a responsibility of the teacher in physical training. It should be possible for the school doctor to hand over such children as we have been discussing to the care and supervision of the instructor, so far as physical training is concerned. Frequently, the doctor can only decide upon the advisability or otherwise of exercise when he has observed the child during and after exercise. The instructor who teaches the child daily has a much wider opportunity for detailed observation, and can, if he will, take good care that the child keeps within its capacity. At the same time, he can, by a well considered scheme of graduated exercises, improve the tolerance of those who are physically defective, just as the normal children, by their training develop and improve their physiological capacities.

Another, and equally important cause of inability to take part in exercise is defective nutrition. I shall not dwell upon this point unnecessarily, for there is no subject of general medical interest about which more has been written and more opinions expressed, but it would be wrong for me to discuss physical education without reference to nutrition as the two are inextricably bound together. There is no need at all for me to labour the view that the child who is under-nourished cannot derive the benefit from physical training that he should. We must not expect a child to undergo training with impunity if the supply of body-building energy producing foods is insufficient. It is quite wrong to subject such a child to a strain beyond its powers.

A malnourished child is not physically fit and cannot take part in the routine exercises without risking harmful consequences. How are we to know which are the malnourished children so that we may guide their physical education ! The assessment of nutrition has proved to be a most difficult problem. If nutrition is a measure of the adequacy of food supply, then it seems that this is primarily an economic matter and might be measured in a general way on an economic basis.

Physical education aims at physical fitness for which the first essential is satisfactory nutrition. But if we have difficulty in measuring this how are we to proceed ? There is, I think, one important line of investigation which might be explored far more thoroughly than has been done hitherto. That is, to measure not the state of nutrition, but physical fitness, or in other words, to measure how the body is functioning. After all, the really important thing to know is how the various systems of the body are working, *e.g.*, the respiratory system, or the circulatory system. It is by no means easy to form an accurate idea of their efficiency from external examination only. Careful standardised testing of the organs is the only way. Various methods have been suggested. There is, for instance, the Woolham-Flack method which measures the sustaining power of the lungs in respiration. This also measures indirectly the efficiency of the heart. Here, then, is one method at least of measuring function in a relatively simple way. If this could be extended generally we should have a much better idea of those who fall short, and we should see to it that the necessary standard of fitness was reached before allowing the child to embark on a full course of physical training.

It cannot be over-emphasised that the means to attain a sound nutrition is the basis of physical fitness. This is acclaimed unequivocably on all sides. I may quote a passage from a report within the last week or two of the Children's Minimum Council which has the backing of such experts as Dr. Eric Pritchard and Sir Frederick Gowland Hopkins. It says :—" By making a proper diet available during the years of growth we could eliminate much disease and disability, and we could give to the children of this generation the opportunity for positive and abounding health which is now denied to all but a small minority." There is not the slighest doubt that the solution is to be found mainly in the alleviation of poverty, a principle which, as we know, already governs policy to a considerable extent.

There is one other type of child I should like to mention, the boy or girl who has no desire to take part in physical training though there is no reason why he should not do so. A certain number of children, only a very small minority, are either lazy or from another cause are averse to training, and though they tentatively suggest that they suffer from some sympton, a little detailed enquiry will usually show that they are quite anxious to perform other kinds of vigorous exercise in which they happen to be interested. It is necessary to be very careful in these cases, but by examination and observation it is usually possible to distinguish the child, who has some physical cause for his inefficiency, from the others.

In this matter of physical education it is as well for us to consider at frequent intervals whether any change might be made with advantage. I should like first to suggest that our present system is apt to lose sight of the individual. We must remember that children differ physically in their powers and capabilities just as much as they do mentally. There is also the hereditary factor which we frequently overlook altogether. We must bear in mind in all our schemes that children are born with particular inherent physical qualities, and in some these may be either prominently good or outstandingly bad. It has been shown that with an average distribution of types of physique we are bound to get these variations, for their occurrence obeys certain laws. This must be allowed for, and methods of physica education will not be completely successful until we are able to treat children of various inherent capabilities in different ways.

There should, I think, be a move to get away from any idea of standardisation except in a very general sense. We cannot really teach physical education to children in a mass and expect them all to develop to their fullest possibilities. I think I am right in saying that in ordinary school education, teachers have found that the more the child's mental development can be supervised individually, the better the result for the child. This does not mean that every child is taught separately, though that may be advisable on occasion. It does mean that his own particular difficulties and requirements are present in the mind of the teacher who is responsible for his progress. The physical instructor must have this individual outlook in view the whole time.

It may be possible to classify children for the purpose of physical education on some scientific basis, as, for instance, defective functioning as found by tests, or hereditary inequalities giving rise to different physical types. With regard to the former, it is usual to find that children who give satisfactory results when their functions are tested can be quite safely taken through the full course of physical training. The children who fail can be guided accordingly, beginning with less strenuous activities and tested at intervals to find if and when they become fit for more severe training. Dr. Woolham, of Manchester, who has done a good deal of this work, has recently told me of a boy who was referred to him on account of malnutrition as judged presumably by his appearance. He put him through a series of functional tests and told the father that he didn't find much wrong. The boy performed his tests very well and appeared to be in satisfactory health. To this the parent replied : " I should think he is, I'm training him to be a track runner ! "

If we consider hereditary qualities in children, relating for instance to stature, musculature, shape of head or propensity for the deposition of fat, it is quite probable that we could divide children into three or more physical types each requiring a somewhat different bias in his physical training. This has in fact been done, and individuals are found to belong to one of three types. Though it is rare to find one who completely fits in with the pure type, the majority being mixtures, still it is possible by taking the more prominent characteristics to put each one in his right group.

It may be of interest to say here that three broad types can be clearly described to include all individuals : the round type, the oval type and the angular type. In the round type the " head, face, body and hands tend to be rounded," stature somewhat shorter than the average, muscles somewhat soft, an abdomen which tends to prominence, and a general appearance of plumpness. To quote : " the face is often large in relation to the rest of the head, and the expression is genial, peaceful, or even dull." These people are less active but not necessarily lazy. Their physical education demands freedom and enjoyment. The oval type is tallish, thin, narrow-chested, and the small face is broader above. Many of them need physical education for their development though a few turn out to be good athletes.

The angular type include the large, muscular, and broad-shouldered. These enjoy all forms of strenuous physical activity and are good at boxing and wrestling, and sports where power of endurance is required.

You may be inclined to think that such a classification is far-fetched and unlikely to be of any practical value, but it has been found in practice that a preliminary classification into types is both possible and helpful before deciding upon the details of a course in physical education. This 'typing' is still in its early stages, but those who have used it have found it of immense value. It facilitates the recognition of unexpected physical powers, and indicates how far physical development has proceeded. What is, perhaps, more important is that it shows in what directions physical education should follow to allow the fullest development of the individual's capabilities.

In support of this I might cite two examples given by Dr. Griffen, of London. The first is the case of a boy of 16 who enquired as to what his speciality would be, and was told that after an all-round training he would make a good middle-distance man. He was amused and pointed out that he was in fact a 100 metre sprinter. Three years later, however, he was entered for the 1,500 metres. The second is the result of an inquiry by the Physical Education Association of Berlin. It was shown that the tall, slender men, with the so-called nervous hearts, preferred middle distance runs, proving again, as Dr. Griffin points out, the connection between build and capability.

We may find that further research on these lines will provide us with knowledge which is fundamental to a true understanding of physical education.

So much for the possible revision of physical education at the beginning, from the point of view of the individual.

I need not add further to what I have already said about the children who have definite physical defects. The necessity for the careful limitation of exercise is obvious to all.

The variety of exercises and games which are at present in use are comprehensive and of great value to the majority of children. The games side is being widely encouraged by organisers and this is to be commended for not only is there the physical benefit, but games, more especially those which are competitive, do bring self-confidence in ways which cannot be acquired easily by other means. By discipline and the submergence of self, functional nervous disorders are rendered highly unlikely, and the moral fibre is strengthened. The camp movement, though increasing, leaves plenty of room for enlarging its scope. May I put in a plea for a much wider extension of summer camps for school children. Let more and more children be taken away from our crowded towns, for as long as possible, so that they may be put well on the way to physical fitness and learn lessons which will influence them for the rest of their lives. Camping arrangements on simple lines could be extended for comparatively little cost and the return in the form of improved health would soon show it to be a sound economic proposition.

With regard to nutrition and clothing I have already indicated the link with physical education. They are basic factors in any successful scheme.

Finally, it appears that there is still lacking in very many places that co-operation between the medical man and the organiser, which is quite fundamental to success. Physical training must be based on the close co-operation of those in charge, with the physician and the physiologist, and it is a mistake to suppose that it can succeed in any other way. I am not fully aware of the steps which may be taken to this end in all authorities, but I know that in many such, co-operation is practically non-existent. I hope I have said enough to show that a sound, physical education must depend on a knowledge of the capabilities and requirements of each child and I fail to see how this can be provided without the fullest co-operation with the doctor.

In conclusion, you will not have misunderstood me in referring, for the most part, to some of the ways in which physical education is at present not likely to achieve, perhaps, the very best results. It is easy to acknowledge its advantages, and they are many, but surely our constant duty is to do all we can to help it to fulfil still further its real purpose. The aim is to stimulate active physical recreation, to train each one according to his inherent capacity and to give a permanent interest in all forms of out-door activity. We must realise that we are not out to develop the few but to promote the ability for physical enjoyment in all, and so long as we know our responsibility, particularly with regard to the children, then, I think, we shall not be content with anything but the best.

The following is extracted from the Report of the Director of Education :—

The growth of interest in Physical Education noted in last year's report has been well maintained. It can be stated that its importance as an integral part of a child's education is realised by the Head and Assistant Teachers in County Schools. In framing their time tables, Head Teachers are giving more attention to the need for a daily period of organised physical activity and in the majority of schools, where circumstances permit, this aim has been largely realised. That retarded children can benefit particularly from an increased alllowance in this subject is shown by the extended provision made for them by many Head Teachers in Senior Schools. The increasing keenness of the children for all forms of Physical Training needs no emphasis and it is safe to say that they are considered by them the most popular activities in the schools. This enthusiasm illustrates also the general improvement in the teacher's ability to teach this subject, and this may be largely attributed to the extended training obtained at Teachers' Courses.

During the past year Courses in Physical Training for teachers have been held at 13 centres. Lecture demonstrations have also been held in order to cater for those teachers who find it impossible to attend Teachers' Courses and these also have been well attended and some useful discussion has resulted.

The arrangements for Organised Games which have been in force for several years, have been substantially the same during the past year, but the scope of the Association's activities has been widened. Games have been played on inter-house, inter-school and inter-town bases, and the County schools supplied the captain and several members of the Lancashire Schoolboys' Cricket XI. which defeated Yorkshire. Owing to the shortness of the cricket season and the fact that the Summer holidays occur during this period, football is the chief game for the boys, whilst the girls play rounders, hockey and netball. In addition, baseball, stoolball and badminton are played. Many schools enter for the English Schools' Association Competition.

Most competitive games are marked by the keenest enthusiasm on the part of the scholars, whilst many good attendances of parents and friends at events of this nature are recorded in many districts. Association with boys and girls from other schools is regarded as a valuable feature, whilst increased athletic ability and improved physical fitness shows the value gained from the various activities. The juniors, also, are trained in the rudiments of the games played. Many schools and districts hold Annual Sports Days at which track events are held. The arrangements proposed for the year 1938–39 are similar to those of last year, and 425 schools are now included in the scheme as against 397 for the previous year.

The amount included in the Budget for expenditure upon the assistance of Games' Associations is £1,400, which is the same amount as that set aside for the previous year, and the total amount of grant recommended by Local Committees is £1,399 7s.

The following table includes all the applications for the current year, which have been submitted by the Local Committees :—

Dis. No.	Name of Association.	No. of Schools.	Dis. No.	Name of Association.	No. of Schools.
1	North Lonsdale Schools' Athletic	16	22	Kearsley, Little Lever and District Sports	9
	Leven and Crake Valley Sports	9	23	Ramsbottom Peel Brow Schools' Sports	2
	High Furness Rural Games	7	25	Prestwich and Whitefield Schools' Games	11
	Cartmel and District Schools' Athletic	5	26	Littleborough, Smallbridge and Wardle Day Schools' Games	12
2	Carnforth and District School Sports'	4		Milnrow District Schools' Games	4
	South Lonsdale (South Section) Schools'	7		Whitworth Schools' Games	5
3	Garstang and District Schools' Games	8	27	Crompton and Royton Scholars' Sports	14
4	Fleetwood Elementary Schools' Games	5	28	Litherland Schools' Organised Games	9
	Thornton Cleveleys Elementary Schools' Games	7		Formby Senior Council and Contributory Schools'	5
6	Ribblesdale Schools' Games	5	29	Huyton Senior Schools' Sports	3
7 14 15 16	South Ribble Elementary Schools' Games Federation	53		Whiston Central Schools' Sports	2
9	Church and Oswaldtwistle Paddock	12		Prescot and Rainhill R.C. and Rainhill C.E. Sports'	3
10	Area 10 Organised Games	11		Huyton Junior Sports'	8
11	Area 11 Organised Games	4		Eccleston and Moss Bank Schools' Athletic	2
12	Area 12 Organised Games	7		Rainford Schools' Athletic	4
13	Padiham and District Elementary Schools' Sports	5	30	Haydock Senior Schools'	2
14	Withnell School Sports'	5		Newton-le-Willows Schools' Sports	10
	Adlington and District School Sports'	2		Penketh and Sankey	2
	Coppull Schools' Sports	5	31	Tyldesley and Astley Schools' Sports	10
15	Included in South Ribble Federation	...		Atherton Schools' Athletic	10
16	Ormskirk and District Schools Organised Games'	12	32	Makerfield Sports' (Golborne Section)	3
	Skelmersdale and Upholland District Schools' Organised Games	6	33	Irlam and Cadishead Schools' Sports	8
18	Blackrod Schools' Games	4		Urmston and Flixton District Schools' Athletic	6
	Standish and District Schools' Sports	3	34	Worsley District Schools' Sports	13
19	Orrell Schools' Games	4	35	Denton and Haughton Schools' Cricket League	6
	Ashton-in-Makerfield Schools' Sports	7		Audenshaw Games'	5
	Ashton-in-Makerfield Central Schools'	2		Droylsden Schools' Organised Games	3
20	Turton District Schools' Athletic	8		Failsworth Schools' Athletic	5
21	Horwich Schools' Sports	9		Waterloo Schools' Sports	2
	Westhoughton Schools' Athletic	11			421

Swimming.

The reports received on Swimming Instruction during the past year show that considerable progress is being made. Many scholars who have not been able to swim before have gained the Committee's certificate for proficiency, while the majority of those able to swim at the beginning of the season have made rapid progress in mastering different strokes and in learning how to dive and float. The object of the classes is to teach style rather than speed, and many scholars are able to swim, in addition to the breast stroke, the crawl and back crawl strokes. Many of the pupils then proceed to take the tests for the Elementary and Intermediate Certificates and the Bronze Medallion of the Royal Life Saving Society, the last named test requiring a knowledge of three methods of release and five of rescue of a drowning person, and the administering of artificial respiration.

Whilst the progress of the expert swimmers is encouraged, the fact that a large number of those who were not sufficiently proficient to gain the Committee's certificate could swim before the end of the season shows that the beginners are not neglected.

Many districts and schools organise annual swimming galas, which are attended by parents and friends. The galas, which are usually run on inter-school or inter-house lines, arouse the keenest enthusiasm of the scholars, and form a fitting close to the season's work. In many reports appreciation is expressed of the kindness and courtesy shown by the Superintendents of the Baths, some of whom devote a considerable amount of time and care in assisting or conducting the instruction of scholars.

During the year grants were made to 32 districts, comprising 295 schools or departments, and approximately 15,200 children attended each week. 4,064 certificates were issued as against 3,973 last year.

The table which follows shows the schools from which applications have been received for assistance towards Swimming Instruction during the next financial year, together with a list of the baths to be attended :—

Dis. No.	Name of School.	No. of Schools or Depts.	Baths to be Attended.
1	Dalton-in-Furness C.E.	13	Barrow
	Dalton-in-Furness Ireleth C.E.		,,
	Dalton-in-Furness Our Lady's R.C.		,,
	Kirkby Ireleth The Burlington		,,
	Dalton-in-Furness Askam Senior C.		,,
	Dalton-in-Furness Broughton Road C.		,,
	Dalton-in-Furness Nelson Street C.		,,
	Dalton-in-Furness Dowdales Central C.		,,
	Grange C.E.		Grange
	Lower Allithwaite Allithwaite C.E.		,,
	Lower Allithwaite Cartmel C.E.		,,
	Upper Allithwaite Lindale C.E.		,,
	Lower Holker Holker		,,
2	Carnforth C.E.	8	Lancaster
	Bolton-le-Sands Boys		,,
	Bolton-le-Sands Girls' and Infants'		,,
	Cockerham Parochial		,,
	Ellel Dolphinholme		,,
	Ellel Mixed		,,
	Carnforth North Road C.		,,
	Slyne-with-Hest		Morecambe
3	Bilsborrow John Cross C.E.	2	Preston Saul Street
	Barnacre-with-Bonds, Calder Vale St. John's C.E.		Lancaster
4	Fleetwood St. Mary's R.C.	10	Fleetwood
	Fleetwood Chaucer C.		,,
	Fleetwood Milton C.		,,
	Fleetwood Bailey Senior C. Boys'		,,
	Fleetwood Bailey Senior C. Girls'		,,
	Thornton Cleveleys Senior C. Boys'		,,
	Thornton Cleveleys Senior C. Girls'		,,
	Poulton-le-Fylde R.C.		Kirkham
	Poulton-le-Fylde C.E.		,,
	Poulton-le-Fylde Hodgson Senior C.		Fleetwood
5	Kirkham C.E. Boys	9	Kirkham
	Kirkham C.E. Girls		,,
	Kirkham The Willows R.C.		,,
	Medlar-with-Wesham, Wesham C.E.		,,
	Medlar-with-Wesham, Wesham R.C.		,,
	Ribby-with-Wrea Endowed C.E.		,,
	Freckleton C.E.		,,
	Kirkham and Wesham C.		,,
	Warton Endowed		Lytham
6	Fulwood and Cadley C.	6	Preston, Saul Street
	Broughton-in-Preston Grammar		,,
	Longridge R. Smith's C.E. Senior		,,
	Longridge St. Wilfrid's R.C.		,,
	Longridge Berry Lane C.		,,
	Woodplumpton C.E.		Preston, Haslam Park

Dis. No.	Name of School.	No. of Schools or Depts.	Baths to be Attended.
7	Walton-le-Dale, Bamber Bridge St. Saviour's	20	Brinscall
	Walton-le-Dale, Bamber Bridge Methodist		Preston Saul Street
	Walton-le-Dale Higher Walton C.E.		,,
	Walton-le-Dale St. Patrick's R.C.		,,
	Walton-le-Dale C.E. ...		,,
	Penwortham Cop Lane ...		,,
	Penwortham Middleforth C.E.		,,
	Penwortham Howick C.E.		,,
	Much Hoole Hoole C.E. ...		,,
	Walton-le-Dale Lostock Hall C.		,,
	Longton St. Oswald's R.C....		,,
	Little Hoole Junior and Infants' C.		Southport
	Tarleton C.		,,
	Longton C.		,,
	Tarleton C.E.		,,
	Tarleton Mere Brow C.E. ...		,,
	North Meols, Banks St. Stephen's		,,
	North Meols, Banks Methodist		,,
	Longton, New Longton C.E.		,,
	Samlesbury R.C.		Blackburn, Freckleton St.
9	Oswaldtwistle Belthorn and Daisy Green C.E.	6	Blackburn Belpher Street
	Oswaldtwistle Knuzden St. Oswald's		,,
	Rishton School Street Methodist		Blackburn, Blakey Moor
	Church and Oswaldtwistle Central		Accrington
	Oswaldtwistle Rhyddings Senior C.		,,
	Oswaldtwistle R.C.		,,
10	Salesbury	3	Blackburn, Belpher Street
	Yate and Pickup Bank, Belthorn Independent Chapel		,,
	Livesey Cherry Tree C.E. ...		Blackburn, Freckleton Street and Brinscall
11	Brierfield Holy Trinity R.C.	2	Nelson
	Brierfield Walter Street C.		,,
12	Barrowford Higherford St. Peter's and St. Paul's R.C.	4	Nelson
	Barrowford C.		,,
	Foulridge C.E.		Colne
	Trawden C.		,,
13	Padiham C.E.	8	Burnley, Gannow and Central
	Padiham St. John the Baptist's R.C.		,,
	Hapton C.E.		,,
	Altham C.E.		,,
	Sabden R.C. ...		,,
	Sabden C.		,,
	Padiham C.		,,
	Hapton C.		,,
14	Withnell Brinscall Methodist	16	Brinscall
	Withnell St. Joseph's R.C.		,,
	Withnell C.E.		,,
	Withnell Fold Methodist ...		,,
	Withnell Methodist ...		,,
	Adlington C.E.		,,
	Wheelton C.		,,
	Heapey White Coppice C.E.		,,
	Anderton St. Joseph's R.C.		,,
	Coppull Moor C.E.		,,
	Coppull Chapel Lane C.E. ...		,,
	Charnock Richard C.E. ...		,,
	Coppull St. Oswald's R.C. ...		,,
	Adlington St. Paul's C.E. ...		,,
	Anderton, Adlington and District C.		,,
	Coppull and District C. ...		,,
15	Leyland St. Mary's R.C. ...	11	Brinscall
	Croston Parochial		,,
	Croston Methodist		,,
	Brindle Parochial		,,
	Brindle St. Joseph's R.C. ...		,,
	Clayton Green R.C. ...		,,
	Clayton-le-Woods C.E. ...		,,
	Whittle-le-Woods South-Hill R.C.		,,
	Whittle-le-Woods C.E. ...		,,
	Euxton St. Mary's R.C. ...		,,
	Leyland Senior C.		,,
16	Ormskirk Burscough Bridge St. John's C.E.	16	Southport
	Ormskirk Burscough Bridge Methodist		,,
	Ormskirk Newburgh C.E. ...		,,
	Ormskirk Burscough Lords Gate Township		,,
	Skelmersdale Methodist		,,
	Skelmersdale Endowed ...		,,
	Skelmersdale R.C. ...		,,
	Ormskirk United Charity Boys' C.E.		,,
	Ormskirk United Charity Girls' C.E.		,,
	Aughton Parochial ...		Walton, Queen's Drv.
	Skelmersdale C. Boys' ...		Southport
	Skelmersdale C. Girls' ...		,,
	Scarisbrick St. Mary's R.C.		,,
	Ormskirk Senior C. Boys' ...		,,
	Ormskirk Senior C. Girls' ...		,,
	Maghull Senior C.		Walton, Queen's Drv.
18	Standish-with-Langtree St. Marie's R.C.	6	Wigan
	Standish-with-Langtree Standish Grammar		,,
	Wrightington St. Joseph's R.C.		,,
	Shevington Broad-o'th'-Lane C.		,,
	Wrightington Mossy Lea C.		,,
	Blackrod Senior C. ...		,,

Dis. No.	Name of School.	No. of Schools or Depts.	Baths to be Attended.
19	Upholland Roby Mill All Hallows' R.C.	10	Wigan
	Upholland Moor		,,
	Upholland Roby Mill C.E.		,,
	Upholland Village Mixed		,,
	Orrell Lamberhead Green C.		,,
	Abram Bryn Gates C. ...		,,
	Orrell St. James' Road C. ...		,,
	Ashton-in-Makerfield Cansfield Grove Central C. Boys'		,,
	Ashton-in-Makerfield Cansfield Grove Central C. Girls'		,,
	Abram St. Andrew's Mission C.E.		Leigh
20	Turton Eagley Mills ...	3	Egerton
	Turton Walmsley C.E. ...		,,
	Turton Belmont C. ...		,,
22	Kearsley St. John's ...	6	Farnworth
	Kearsley Mount Methodist...		,,
	Little Lever C.E.		Radcliffe
	Little Lever Senior C. ...		,,
	Kearsley West C.		Farnworth
	Kearsley Ringley C.E. ...		,,
23	Ramsbottom Buckhurst C.E.	6	Bury
	Ramsbottom, Edenfield C.E.		Haslingden
	Ramsbottom Holcombe C.E.		Bury
	Ramsbottom St. Andrew's C.E.		,,
	Ramsbottom St. Joseph's R.C.		Haslingden
	Ramsbottom Central C. ...		,,
24	Tottington St. Anne's C.E.	3	Bury
	Tottington Walshaw C.E. ...		,,
	Tottington Hollymount R.C.		,,
25	Prestwich Hope Park Senior Girls' C.	3	Cheetham, Manchester
	Prestwich The Heys Senior Boys' C.		,,
	Whitefield Higher Lane C.		Radcliffe
26	Littleborough Dearnley C.E.	12	Rochdale
	Littleborough C.E.		,,
	Milnrow C.E.		,,
	Whitworth C.E.		Bacup
	Whitworth St. Anselm's R.C.		,,
	Littleborough Smithy Bridge C.		Rochdale
	Littleborough Central C. ...		,,
	Milnrow Moorhouse C. ...		,,
	Wardle Central C.		,,
	Whitworth Leavengreave C.		Bacup
	Whitworth Tonacliffe C. ...		,,
	Whitworth Facit C.E. ...		,,
27	Crompton East Crompton C.E.	15	Crompton
	Crompton High Crompton C.E.		,,
	Crompton Shaw Greenfield Lane C.		,,
	Crompton Shaw C.E. ...		,,
	Crompton Shaw St. Joseph's R.C.		,,
	Crompton Shaw Methodist...		,,
	Royton St. Aidan's and St. Oswald's R.C.		Royton
	Royton St. Anne's C.E. Central		,,
	Royton St. Paul's C.E. Boys'		,,
	Royton St. Paul's C.E. Girls'		,,
	Royton Blackshaw Lane C.		,,
	Royton Byron Street C. ...		,,
	Crompton Central C. ...		Crompton
	Crompton, House C.E. Central		,,
	Royton Central C.		Royton
28	Litherland R.C.	17	Bootle, Balliol Road
	Litherland St. Philip's C.E.		,,
	Kirkby C.E.		,,
	Litherland Lander Road C. Boys'		Bootle, Marsh Lane
	Litherland Lander Road C. Girls'		,,
	Litherland Beach Road C. Boys'		,,
	Litherland Beach Road C. C. Girls'		,,
	Formby R.C. Boys'... ...		Southport
	Formby R.C. Girls'... ...		,,
	Formby Holy Trinity C.E....		,,
	Formby St. Peter's C.E. Boys'		,,
	Formby St. Peter's C.E. Girls'		,,
	Formby Senior C.		Bootle, Balliol Road
	Litherland Central C. Boys'		,,
	Litherland Central C. Girls'		,,
	Litherland St. Elizabeth's R.C. Boys'		Bootle, Marsh Road
	Litherland St. Elizabeth's R.C. Girls'		,,
29	Whiston Central C. Boys' ...	8	St. Helens
	Whiston Central C. Girls' ...		,,
	Huyton-with-Roby Huyton Senior C.		Liverpool Dovecot
	Knowsley Long View C. ... Seniors		Liverpool Old Swan
	Knowsley Long View C. Juniors		,,
	Huyton-with-Roby St. Edward's R.C.		Liverpool Dovecot
	Huyton-with-Roby Huyton The Twig Lane C.		Liverpool Knotty Ash
	Huyton-with-Roby St. Dominic's R.C.		East Prescot Road

Dis. No.	Name of School.	No. of Schools or Depts.	Baths to be Attended.
30	Haydock R.C.	17	St. Helens
	Newton-in-Makerfield Earlestown District C.E.		Warrington
	Newton-in-Makerfield Earlestown The Manor C.E.		,,
	Newton-le-Willows St. Mary's R.C. Boys'		,,
	Newton-le-Willows St. Mary's R.C. Girls'		,,
	Newton-in-Makerfield St. Peter's C.E.		,,
	Newton-in-Makerfield Wargrave C.E.		,,
	Poulton-with-Fearnhead Padgate C.E.		,,
	Burtonwood St. Paul of the Cross R.C.		,,
	Woolston R.C.		,,
	Burtonwood C.		,,
	Great Sankey C.		,,
	Penketh C.		,,
	Newton-in-Makerfield Earlestown Central C. Boys'		,,
	Newton-in-Makerfield Earlestown Central C. Girls'		,,
	Haydock Senior C. Boys'		St. Helens
	Haydock Senior C. Girls'		,,
31	Tyldesley Boothstown R.C.	20	Tyldesley
	Tyldesley Boothstown Methodist		,,
	Tyldesley Central C.E.		,,
	Tyldesley Mosley Common C.E.		,,
	Tyldesley Upper George Street C.		,,
	Tyldesley C.E.		,,
	Tyldesley Astley St. Stephen's C.E.		,,
	Tyldesley Marsland Green C.E.		,,
	Tyldesley Senior Girls' C.		,,
	Tyldesley Senior Boys' C.		,,
	Atherton St. George's C.E.		Atherton
	Atherton Hesketh Fletcher Senior C.E. Boys'		,,
	Atherton Hesketh Fletcher Senior C.E. Girls'		,,
	Atherton Bolton Road		,,
	Atherton Chowbent		,,
	Atherton Hindsford C.E.		,,
	Atherton Howe Bridge C.E.		,,
	Atherton Lee Street Undenominational		,,
	Atherton St. Richard's R.C.		,,
	Atherton Hindsford St. James' R.C.		,,
32	Golborne Parochial	7	Leigh
	Golborne R.C.		,,
	Golborne Lowton C.		,,
	Golborne Lowton C.E.		,,
	Golborne Lowton St. Mary's		,,
	Golborne Council Senior		,,
	Golborne Culcheth C.		,,
33	Irlam Cadishead Senior C.	5	Urmston
	Urmston Flixton Senior C. Boys'		,,
	Urmston Flixton Senior C. Girls'		,,
	Irlam Central C.		,,
	Urmston English Martyrs'		,,
34	Worsley, Boothstown	13	Walkden
	Worsley Swinton All Saints' Mixed and Infants' C.E.		,,
	Worsley Walkden C.E.		,,
	Worsley C.E.		,,
	Worsley Little Hulton St. John's Ellesmere C.E.		,,
	Worsley Walkden Senior Boys' C.		,,
	Worsley Hulton Walkden Methodist		,,
	Worsley Hulton Peel St. Paul's C.E.		,,
	Worsley Hulton St. Edmund's R.C.		,,
	Worsley Hulton Walkden Moor Methodist		,,
	Worsley Hulton East C.		,,
	Worsley Walkden Senior Girls' C.		,,
	Worsley Hulton West C.		,,
35	Denton Christ Church C.E.	23	Gorton
	Denton St. Mary's R.C.		,,
	Denton Haughton Green C.E.		,,
	Denton Haughton St. Anne's C.E.		Hyde
	Audenshaw C.E.		Ashton-under-Lyne
	Lees Leesfield C.E.		Oldham
	Lees Zion Methodist		,,
	Lees R.C.		,,
	Failsworth C.E.		New Moston
	Failsworth Holy Trinity C.E.		Newton Heath
	Failsworth St. Mary's R.C.		New Moston and Newton Heath
	Bardsley C.E.		Hathershaw
	Waterloo Christ Church Branch C.E.		Ashton-under-Lyne
	Droylsden Manchester Road C.		Bradford, Manchester
	Droylsden Moorside C.		,,
	Audenshaw C.		Whitworth, Manchester
	Failsworth Mather Street C.		New Moston
	Droylsden Fairfield Road C.		Whitworth, Manchester
	Denton Central C.		Gorton
	Failsworth Minor Street C. Boys'		Hollinwood
	Failsworth Minor Street C. Girls'		New Moston
	Waterloo C.		Ashton-under-Lyne
	Audenshaw Poplar Street C.		Whitworth, Manchester and Gorton

PROVISION OF MEALS AND MILK TO ELEMENTARY SCHOOL CHILDREN.

Sections 82–84 of the Education Act, 1921, which have been adopted by the Lancashire Education Committee, confer on Local Education Authorities power to provide meals for children attending Public Elementary Schools. It is intended that the meals supplied by the Authorities shall be supplementary to those given to the children at home by their parents. The object of the provision is to secure that no child shall be prevented by lack of food from taking full advantage of the education provided, and in this respect it is not necessary to wait for the appearance of physical signs of malnutrition before selecting a child for feeding. Any educational evidence, any inability to profit from mental or physical instruction, any lassitude, however slight these may be, may justify provision.

The more essential food materials include the first class proteins, *i.e.*, protein of animal origin, animal fats, green vegetables and vitamins, and as these are expensive to buy it follows that they are likely to be found in inadequate quantities in the usual home dietaries of mothers and children. For this reason the provision by the Education Authority of meals containing these vital food stuffs is a valuable measure. The younger the child the more essential it is that it should be properly fed, for the effects of a dietary deficient during childhood may persist throughout life.

In the Administrative County the School Medical Sub-Committee of the Education Committee is responsible for the administration of the scheme under which meals are supplied to school children. Diets arranged to make up the deficiencies known to occur in the home diets of children have been prepared at the Central Office and sent to Local Area Committees as guides.

Every effort is made to reach a high standard in cooking and service, and special attention is directed towards making the meals appetising. Only English meat is used. An adequate amount of bread is supplied with each meal.

The County Medical Officer maintains observation over the children receiving meals and the manner in which the meals are provided. Local administrative arrangements, however, are made by the Local Area Committees and submitted to the County Medical Officer for approval.

The selection of the children is made in the first instance by the Teachers, School Attendance Officers, Health Visitors or Assistant School Medical Officers.

In some Districts in the County Area, milk only (up to one pint a day) is being supplied to necessitous school children, but in other districts mid-day meals and milk up to two-thirds of a pint are provided.

In general the arrangements are made for meals to be provided at central feeding premises and in most cases the meals are provided by contract by local caterers.

Three methods of catering are in operation, namely :—

(1) " Direct," *i.e.*, where the County Council have established kitchens, three in number, now supplying five Centres.

(2) Private caterers, supplying 65 centres.

(3) School Canteens, five in number.

The approximate number of meals per day supplied during December, 1938, under each of these headings is as follows :—

(1) " Direct " catering	345
(2) Private caterers	5,433
(3) School Canteens	108

" Direct " catering has been carried out for some years at one Feeding Centre.

The recipes were revised early in 1938, and in one area it was reported that the caterer could not undertake to supply the meals in accordance with the new recipes. In consequence of this, it was decided to institute " direct " feeding. A disused bakery was rented, the necessary cookers installed, and the kitchen was staffed by one cook and one assistant. This kitchen is working very well. There is less wastage of the meals, of which there is a good variety. They are being supplied at a saving in cost compared with the prices paid to private caterers in some districts.

" Direct " catering was commenced in two other areas during the year. These are proving quite satisfactory and meals from one kitchen are now being supplied to necessitous children in an adjoining township.

In several schools a canteen is run for the benefit of children on payment of a small sum, and at five of these canteens, necessitous children are also receiving mid-day meals. Where these two classes of children take meals together in this way there is removed much of the stigma of poverty attached to the "free-meal" child. More school canteens are being established and where practicable, arrangements will be made for the necessitous school children to receive their mid-day meals at the canteens.

Where meals are provided in school they are under the supervision of the Head Teacher and his staff, the older children serving the meals and washing up afterwards. At the feeding centres it has been found necessary to allocate superintendents and assistants to carry out the serving of meals and cleaning up.

In receiving the benefit of properly selected meals the children grow accustomed to what is good for them and lose their fads, whilst at the same time they learn to eat properly and good table manners are inculcated.

The Milk in Schools Scheme of the Milk Marketing Board continues in operation. Under this scheme, milk supplied to schools or recognised centres and consumed on the premises can be purchased by scholars, and also by the Education Committee, at the cost of ½d. per one-third pint, *i.e.*, 1/– per gallon, the remainder of the cost being borne by the Exchequer and the Milk Marketing Board. The voluntary scheme, *i.e.*, where the scholars purchase the milk, is administered by the teachers of the various schools.

The following table shows the numbers of children receiving milk in school under the various arrangements :—

Type of School.	No. of Children on Register.	No. of Children receiving milk under the Scheme of the Milk Marketing Board.			No. of children receiving milk under other arrangements.		
		Free.	For payment	Total.	Free.	For payment	Total.
Elementary Schools ...	117,184	18,344	49,918	68,262	362	3,144	3,506
Secondary Schools ...	15,829	178	4,437	4,615	11	293	304
Junior Instruction Centres and Technical Schools ...	1,012	79	286	365	......	......	......

In the above table, "milk under other arrangements" includes such preparations as Horlick's Malted Milk. Some children purchase milk under the Milk in Schools Scheme during the summer, and Horlick's Malted Milk during the winter. These children are included in both sections.

For necessitous cases the following arrangements have been made where the Local Education Committee have deemed it advisable that children should receive milk during the holidays.

(1) Where Feeding Centres exist milk may be supplied, and is supplied in three districts, during the holidays, under the Milk in Schools Scheme.

(2) In those areas where no Feeding Centres exist milk is supplied to the children direct at their homes, but in this case the milk is not supplied under the Milk in Schools Scheme, the Education Authority purchasing it at the ordinary retail price.

In the three districts referred to during the mid-summer holiday, 1938, 1,094 children attended at the Centres for free milk. This represents eighty-four per cent. of the children receiving free milk during the school term. 5,181 children were supplied with milk directly at their homes.

Milk, containing as it does, first-class protein, fat, carbohydrate, salts and vitamins has well been described as the key of nutrition. Its provision in schools is undoubtedly a valuable factor in the promotion of health, and reports received from head teachers testify to an increased vitality of the children with improvement in both mental and physical well-being. These opinions are fully endorsed by the Assistant County Medical Officers at Routine Medical Inspection.

It is unfortunate that such a complete food as milk should at the same time be very liable to contamination by organisms and thus rendered "unsafe." The very fact that it possesses highly nutritious properties accounts for its being a perfect culture medium for micro-organisms.

The many sources of contamination to which milk is exposed render it impossible to secure a safe supply otherwise than by some form of sterilisation, and in this respect pasteurisation is the process most desirable. This, also, is the view held by the Board of Education.

Arguments against pasteurisation have been advanced from time to time, and in particular it was thought that the effect of heat might impair the full nutritive properties of the milk. Fortunately, experience has shown that this is not the case.

In this connection the experiments of the National Institute for Research in Dairying reported to the Milk Nutrition Committee in 1938, are interesting. A large number of children were divided into four equal groups. One group acted as a control and received biscuits but no milk. The second group was given ⅓ pint of pasteurised milk daily, the third group ⅔ pint of pasteurised milk, and the fourth group ⅔ pint of raw milk. At the end of eighteen months it was found that there was a progressive increase in both weight and height passing from the control group to the groups receiving ⅔ pint of milk, and that there was no difference apparent between the groups receiving equal amounts of raw and pasteurised milk.

In a later report by the same Committee an account is given of carefully controlled experiments in which a comparison is made of the progress of calves fed on (1) raw milk ; (2) pasteurised milk. No difference in the nutritive values of the two kinds of feeding was observed, nor was there any statistical difference shown between the effects of raw and of pasteurised milk on growth.

These experiments on calves are of peculiar interest in that it was feared that pasteurisation might lead to a lowering of the absorbability of the calcium salts, so essential for growth. A calf needs many times the proportion of calcium in its dietary to provide for normal development than does the growing child, and it might therefore have been expected that calves on pasteurised milk would have shown some inferiority in their rate of growth.

Revealing the efficiency of pasteurisation in destroying the tubercle bacillus in milk is the fact that whilst eight out of eleven calves fed on raw milk reacted positively to the tuberculin test, only one out of eleven fed on pasteurised milk gave positive reactions.

In the area of the Lancashire Education Committee, it is unfortunately a fact that there is not available an adequate supply of pasteurised milk for schools. Insistence upon pasteurised milk would, therefore, deprive a number of schools of a milk supply.

The number of contractors supplying milk to schools in the County area on the 31st December, 1938, was 322. Of this number, 73 supplied Accredited milk, 4 Tuberculin Tested, and 25 Pasteurised milk.

The supply of each contractor was examined quarterly for tubercle bacilli. During 1938, 1266 samples were taken and 61 (*i.e.*, 4·8 per cent.) of them were reported positive.

When a school milk supply is found to contain tubercle bacilli the supply is stopped forthwith, unless the retailer can arrange for his school supplies to be pasteurised, until the affected animals have been determined and removed from the herd. (By the terms of the Agricultural Act, 1938, the examination of suspected cattle is now carried out by the Veterinary Staff of the Ministry of Agriculture and Fisheries.)

The supplies of the 77 contractors licensed for the production of Accredited and Tuberculin Tested Milk were examined quarterly under the Milk (Special Designations) Order, 1936, for tubercle bacilli, and also for bacterial content. The licensed herds were also submitted to a veterinary examination each quarter, and any animals showing suspicious symptoms were isolated and the milk was not used for human consumption until the herd was free from disease.

The following Table shows the Townships in which mid-day meals were provided, the number of meals provided, and the cost.

Area No.	Township.	Amount spent.		No. of meals provided.	Average cost per meal per child.	
		Food.	Total.		Food.	Total.
		£ s. d.	£ s. d.		d.	d.
9	Great Harwood	708 16 3	730 12 1	26,172	6·50	6·70
	Clayton-le-Moors	624 1 0	675 5 8	21,396	7·00	7·57
	Rishton	507 14 10	524 11 1	17,454	6·98	7·21
	Oswaldtwistle and Church	829 9 2	915 12 0	30,343	6·56	7·24
11	Brierfield	236 18 4	269 16 9	11,372	5·00	5·69
13	Padiham	655 7 5	1,227 15 11	43,175	3·64	6·82
14	Withnell	165 0 6	292 9 4	7,550	5·24	9·29
	Adlington	290 16 10	419 8 5	12,370	5·64	8·14
	Chorley R.D.	339 10 8	480 3 11	14,545	5·60	7·92
16	West Lancs. R.D. ...	173 0 0	178 4 7	13,840	3·00	3·10
18	Standish	488 0 10	614 5 11	20,110	5·83	7·33
	Blackrod	304 3 4	494 9 3	13,510	5·43	8·78
	Aspull	1,996 9 4	2,488 15 9	78,838	6·08	7·58
19	Ashton-in-Makerfield ...	711 12 10	1,148 4 1	48,292	3·54	5·71
21	Westhoughton	1,222 18 1	1,685 1 8	47,170	6·22	8·57
	Horwich	473 16 10	651 17 11	19,335	5·88	8·09
22	Kearsley	1,275 6 7	1,588 17 0	46,706	6·55	8·16
	Little Lever	335 19 3	460 2 2	14,491	5·56	7·62
23	Ramsbottom	561 5 10	659 14 9	22,737	5·92	6·96
24	Tottington	149 3 6	164 6 3	7,045	5·09	5·59
25	Whitefield	212 9 10	232 8 11	6,884	7·41	8·10
	Prestwich	207 7 8	305 19 4	9,438	5·27	7·78
26	Littleborough	63 6 0	65 5 0	1,898	8·00	8·25
	Whitworth	140 11 9	145 10 2	4,803	7·00	7·27
29	Huyton	310 1 3	312 7 11	14,883	5·00	5·04
30	Haydock	864 6 1	1,263 0 4	56,455	3·67	5·37
	Newton-le-Willows ...	1,048 2 1	1,470 5 10	64,055	3·93	5·51
	Warrington R.D. ...	201 10 11	321 3 5	13,370	3·62	5·77
31	Tyldesley	720 18 8	901 8 5	27,749	6·24	7·79
	Atherton	1,494 14 7	1,809 0 5	60,700	5·91	7·15
32	Golborne	993 15 4	1,214 9 2	43,234	5·52	6·74
34	Worsley	796 5 3	1,260 4 7	39,752	4·81	7·61
	Total ...	£19,103 0 10	£24,970 18 0	859,672	5·33	6·97

The following table shows the Townships in which fresh milk has been provided, and the cost :—

Area No.	Township.	Amount spent.						No. of pints of milk provided.	Average cost per pint.	
		Milk.			Total.				Milk.	Total.
		£	s.	d.	£	s.	d.			
1	Dalton-in-Furness	318	13	4	346	7	6	50,842	1·50	1·63
	Ulverston	172	6	4	186	15	4	26,852⅔	1·54	1·66
	Ulverston R.D.	149	19	6	162	16	4	23,548⅔	1·53	1·66
2	Carnforth	52	3	7	64	10	0	8,300	1·51	1·86
	Lancaster R.D.	125	16	9	154	16	9	19,529⅓	1·55	1·90
	Lunesdale R.D.	46	13	2	56	11	9	6,686⅔	1·67	2·03
3	Preesall	36	1	1	37	19	5	5,769	1·50	1·58
	Garstang R.D.	101	6	0	106	13	4	16,197⅔	1·50	1·59
4	Fleetwood	608	1	10	647	18	2	84,380	1·73	1·84
	Poulton-le-Fylde	40	9	5	43	4	8	5,861	1·66	1·77
	Thornton Cleveleys	181	17	0	193	15	10	25,287⅔	1·73	1·84
	Fylde R.D.	7	0	11	7	10	6	1,018	1·66	1·77
5	Kirkham	133	3	4	161	2	5	21,306⅔	1·50	1·81
	Fylde R.D.	57	7	9	69	8	8	9,181⅔	1·50	1·71
6	Fulwood	0	16	8	1	3	7	133⅓	1·50	2·12
	Longridge	81	7	0	108	12	1	10,467⅓	1·86	2·49
	Preston R.D.	32	14	5	45	2	5	4,763	1·65	2·27
7	Walton-le-Dale	129	18	9	158	18	0	18,298⅔	1·70	2·08
	Preston R.D.	63	18	4	79	8	10	9,811⅓	1·56	1·94
	West Lancs. R.D.	41	10	1	52	0	4	6,645	1·50	1·89
8	Clitheroe R.D.	19	10	10	34	10	10	3,129⅔	1·50	2·62
9	Oswaldtwistle	5	17	5	6	8	2	756	1·87	2·03
10	Blackburn R.D.	143	9	4	158	9	4	18,802	1·83	2·02
11	Brierfield	23	2	8	27	1	0	1,352⅓	4·11	4·73
	Burnley R.D.	6	16	10	10	0	1	1,092⅓	1·50	2·19
12	Barrowford	126	5	11	139	1	3	7,448⅓	4·07	4·61
	Burnley R.D.	8	2	11	10	7	7	1,303	1·50	1·91
13	Padiham	1	19	1	2	2	1	156⅓	3·00	3·23
	Burnley R.D.	127	0	0	142	1	4	16,352	1·86	2·09
14	Chorley R.D.	42	6	5	46	0	8	5,518⅔	1·84	2·02
15	Leyland	164	14	11	179	10	5	21,977⅔	1·79	1·96
	Chorley R.D.	147	0	3	160	7	3	19,864	1·78	1·94
16	Ormskirk	579	1	5	608	4	4	77,138	1·80	1·89
	Skelmersdale	315	15	4	331	12	2	41,930	1·81	1·89
	West Lancs. R.D.	390	15	9	410	11	5	52,366⅔	1·79	1·88
18	Standish	23	0	3	24	2	1	2,968	1·86	1·95
	Blackrod	87	19	11	91	19	5	10,801⅔	1·96	2·04
	Aspull	6	1	8	6	5	3	487	3·00	3·09
	Wigan R.D.	172	12	7	181	0	4	22,798	1·81	1·91

Area No.	Township.	Amount spent.						No. of pints of milk provided.	Average cost per pint.	
		Milk.			Total.				Milk.	Total.
		£	s.	d.	£	s.	d.			
19	Upholland	173	19	1	185	14	4	27,837	1·50	1·60
	Orrell	301	5	5	321	12	10	48,204⅔	1·50	1·60
	Billinge	81	15	8	87	6	3	13,087⅔	1·50	1·60
	Abram	176	9	9	188	8	5	28,241	1·50	1·60
20	Turton	95	5	11	110	5	11	15,245⅔	1·50	1·74
22	Kearsley	0	2	0	0	2	1	8	3·00	3·12
23	Ramsbottom	21	14	3	27	0	5	3,481	1·50	1·86
24	Tottington	14	7	5	18	0	11	2,287⅓	1·50	1·85
25	Whitefield	7	14	4	10	2	1	824	2·25	2·94
	Prestwich	17	7	7	22	13	6	1,827	2·28	2·98
26	Littleborough	92	15	4	105	7	3	12,293⅓	1·80	2·06
	Milnrow	140	4	3	159	8	6	18,754⅔	1·79	2·04
	Wardle	63	5	8	71	18	2	8,420	1·80	2·05
	Whitworth	164	18	3	187	12	3	22,150⅓	1·79	2·03
27	Crompton	462	15	6	496	7	5	61,228⅓	1·81	1·94
	Royton	294	16	1	316	4	2	39,008⅓	1·81	1·94
28	Litherland	271	2	1	317	8	0	43,383⅓	1·50	1·76
	Formby	36	14	2	42	19	7	5,877	1·50	1·76
	West Lancs. R.D.	9	10	5	11	3	0	1,524⅔	1·50	1·75
	Whiston R.D.	4	13	10	5	9	11	752	1·50	1·75
29	Huyton	2,541	2	2	2,590	0	8	312,466	1·95	1·99
	Prescot	442	15	8	451	1	9	53,021	2·00	2·04
	Rainford	84	5	11	86	1	4	11,312⅔	1·78	1·82
	Whiston R.D.	754	15	9	769	13	4	95,026⅔	1·91	1·94
30	Newton-le-Willows	11	2	2	11	18	3	1,769⅓	1·50	1·61
	Warrington R.D.	137	17	8	146	4	8	18,376	1·80	1·91
31	Tyldesley	2	9	11	2	11	8	199⅓	3·00	3·11
	Atherton	7	14	11	8	3	2	619	3·00	3·16
32	Golborne	59	5	11	66	2	7	8,910⅔	1·60	1·77
33	Irlam	183	0	0	206	11	8	23,963⅓	1·83	2·07
	Urmston	249	14	0	281	2	4	31,918⅔	1·88	2·11
34	Worsley	5	18	7	8	15	3	745⅔	1·91	2·82
35	Denton	124	10	3	150	16	4	20,971⅓	1·42	1·73
	Audenshaw	37	13	0	45	12	1	6,341⅔	1·42	1·73
	Lees	85	4	7	102	6	8	13,638	1·50	1·80
	Failsworth	82	12	7	99	4	3	13,222⅔	1·50	1·72
	Droylsden	101	14	11	123	1	7	17,012	1·43	1·74
	Limehurst R.D.	51	11	9	62	6	2	8,553	1·45	1·75
	Total	£12,167	5	6	£13,151	9	8	1653623⅔	1·77	1·91

The following table shows the Townships in which children were provided with milk as well as a mid-day meal, and the cost :—

Area No.	Township.	Amount spent (milk only).			No. of pints of milk provided.	Cost per pint.
		£	s.	d.		d.
9	Great Harwood	79	14	5	12,763	1·50
	Clayton-le-Moors	59	9	6	9,519⅓	1·50
	Church and Oswaldtwistle ...	87	7	7	13,984⅓	1·50
	Rishton	53	13	2	8,584⅓	1·50
11	Brierfield	83	8	1	4,852⅓	4·13
13	Padiham	138	18	6	22,254⅓	1·50
14	Withnell	20	1	4	3,213	1·50
	Adlington	31	3	5	4,988⅓	1·50
	Chorley R.D.	48	18	6	7,827	1·50
16	West Lancs. R.D.	38	8	4	6,149⅔	1·50
18	Standish	50	13	8	8,113⅓	1·50
	Blackrod	35	10	1	5,683⅔	1·50
	Aspull	210	15	9	33,730⅓	1·50
	Wigan R.D.	13	14	9	2,198	1·50
19	Ashton-in-Makerfield	141	7	8	22,626⅓	1·50
21	Westhoughton	128	6	6	20,536	1·50
	Horwich	59	11	11	9,534⅔	1·50
22	Kearsley	127	12	2	20,424	1·50
	Little Lever	41	16	4	6,693⅔	1·50
23	Ramsbottom	62	17	8	10,070	1·50
24	Tottington	21	3	8	3,396	1·50
25	Whitefield	17	2	0	2,974⅔	1·38
	Prestwich	32	6	9	5,642⅔	1·38
26	Littleborough	3	0	9	488⅓	1·50
	Whitworth	10	9	4	1,675	1·50
29	Huyton	60	14	1	9,712⅓	1·50
30	Haydock	125	5	0	20,041	1·50
	Newton-in-Makerfield ...	199	10	1	31,922	1·50
	Warrington R.D.	31	13	9	5,073⅓	1·50
31	Tyldesley	88	9	5	14,155⅓	1·50
	Atherton	188	16	5	30,215⅓	1·50
32	Golborne	97	11	8	15,617	1·50
34	Worsley	90	2	9	14,423	1·50
	Total ...	£2,479	15	0	389,081⅔	1·53

The following Table shows the number of individual children who have been provided with milk and/or mid-day meals :—

Township.	Number of Individual Children who received—	
	Milk only.	Mid-day meals and Milk.
Dalton-in-Furness	428	...
Ulverston	243	...
Ulverston R.D.	165	...
Carnforth	74	...
Lancaster R.D.	201	...
Lunesdale R.D.	64	...
Preesall	61	...
Garstang R.D.	175	...
Fleetwood	727	...
Poulton-le-Fylde	76	...
Thornton Cleveleys	229	...
Fylde R.D.	70	...
Kirkham	144	...
Fulwood	4	...
Longridge	76	...
Preston R.D.	100	...
Walton-le-Dale	91	...
West Lancashire R.D.	364	105
Clitheroe R.D.	35	...
Great Harwood	...	252
Clayton-le-Moors	...	181
Rishton	...	150
Church	...	87
Oswaldtwistle	5	187
Blackburn R.D.	115	...
Brierfield	14	68
Burnley R.D.	154	...
Barrowford	57	...
Padiham	2	510
Adlington	...	67
Withnell	...	42
Chorley R.D.	206	147
Leyland	116	...
Ormskirk	457	...
Skelmersdale	285	...
Standish	13	138
Blackrod	74	99
Aspull	6	454
Wigan R.D.	184	...
Upholland	216	...
Orrell	390	...
Billinge	137	...
Abram	238	...
Ashton-in-Makerfield	...	448
Turton	132	...
Horwich	...	177
Westhoughton	...	347
Kearsley	1	318
Little Lever	...	129
Ramsbottom	29	167
Tottington	21	87
Whitefield	27	70
Prestwich	18	63
Littleborough	154	13
Milnrow	181	...
Whitworth	252	38
Wardle	98	...
Crompton	299	...

Township.	Number of Individual Children who received—	
	Milk only.	Mid-day meals and milk.
Royton	187	...
Litherland	402	...
Formby	78	...
Whiston R.D.	444	...
Huyton	1,949	1,948
Prescot	487	...
Rainford	71	...
Haydock	...	312
Newton-le-Willows	25	352
Warrington R.D.	153	65
Tyldesley	1	148
Atherton	4	310
Golborne	70	235
Irlam	209	...
Urmston	312	...
Worsley	9	374
Lees	138	...
Denton	198	...
Failsworth	129	...
Droylsden	146	...
Audenshaw...	74	...
Limehurst R.D.	66	...
Total ...	12,360	8,088

During the year, Cod Liver Oil and Malt, etc., as shown below, was supplied to school children :—

		£	s.	d.
6,231 lbs. of Cod Liver Oil and Malt ...	... at a cost of	194	2	6
2,570 bottles of Cod Liver Oil and Malt with Parrish's Chemical Food	,,	94	7	9
412 bottles of Cod Liver Oil	,,	9	19	3
84 bottles of Cod Liver Oil with Parrish's Chemical Food	,,	2	16	0
397 bottles of Cod Liver Oil Emulsion ...	,,	14	12	1
942 bottles of Cod Liver Oil (Egg) Emulsion	,,	31	3	8
94 bottles of Cod Liver Oil Emulsion with Parrish's Chemical Food	,,	2	14	10
100 bottles of Cod Liver Emulsion	,,	2	10	0
317 bottles of Aberdeen Emulsion	,,	13	8	5
140 bottles of A. & D. Emulsion	,,	7	10	1
155 bottles of Ferrated Emulsion	,,	7	15	0
904 tins of Maltoline and Iron	,,	27	12	10
14 cartons of Malt Extract with A., B. & D.	,,	–	14	0
16 tins of Virol	,,	–	16	0
447 packets of Adexolin Capsules	,,	11	3	6
8 lbs. of Bemax	,,	–	10	0
	Total ...	£421	15	11

ARRANGEMENTS FOR WARMING FOOD AND SERVICE OF MEALS IN SCHOOL.

In view of the isolated position of many of the schools and the comparatively long distances which some of the children attending such schools have to travel before they arrive, the Education Committee has endeavoured to arrange for facilities to be provided for these children to take their mid-day meal in school. The need for this provision is not now so great, in view of the schemes of re-organisation which are maturing, whereby children are transferred from the smaller schools to attend the new or re-organised Senior Schools where ample provision is made for the mid-day meal. In some schools Dining Rooms are provided.

In those schools where a need exists, apparatus is supplied for the purpose. About 180 schools are equipped in such a manner that food can be warmed and a hot drink provided at mid-day for the children.

CO-OPERATION.

(*a*) Co-operation of Parents.

During the year the Medical Officers had 37,944 interviews with parents in elementary schools and clinics and visited 537 homes ; the Nurses interviewed in school 857 parents and visited 12,541 homes, whilst the Dental Surgeons had 16,583 interviews with parents who attended at the clinics with their children. 237,804 attendances were made by children of pre-school age at Child Welfare Centres, each one representing an interview of a parent with either Doctor or Nurse, whilst at ophthalmic clinics 11,076 interviews of parents attending with their children took place.

In addition, the Nurses paid 88,220 visits to the homes of young children, infants, or expectant mothers, etc.

The attendance of parents at medical inspections is encouraged and special invitations are now extended to the parents of all children who are undergoing routine inspection as it is considered that the advice given by the Medical Officer with regard to school children is reflected in the home in the more careful up-bringing of children not yet attending school and is in this way a truly preventive measure.

This is the first year in which such special invitations have been sent out and it is gratifying to note that 7,555 parents attended, an increase of 57 per cent. on the figure for last year.

(*b*) Co-operation of Teachers.

The co-operation of the teaching profession is of high degree. Teachers willingly place all available facilities at the disposal of the Medical Officers. They are, further, very helpful in bringing before the Medical Officers cases of defect which they themselves have noted and in giving information of a general nature about the children. Their help in the Milk in Schools Scheme is invaluable. In this sphere of activity they have made an important contribution towards the health of the children.

Mention has been made of the valuable help of the teachers in seeing that spectacles are worn regularly by the scholars for whom they have been prescribed.

In the dental treatment of children the co-operation of the teachers is particularly important. Children are apt to fail to keep their appointments unless reminded of them by the teacher and such failure results in the waste of much valuable time.

(*c*) Co-operation of School Attendance Officers.

The Attendance Officers continue to perform numerous duties not directly connected with school attendance. The supervision of the employment of children entails work at irregular hours and often on Saturdays and Sundays. Other work connected with the physical welfare of children and with the activities of the School Medical Department continues to increase.

The following table shows some of the figures relating to the School Attendance Officers' duties in 1938 :—

No. of interviews with Medical Officers	1,220
No. of interviews with School Nurses	1,902
No. of visits to homes, arising out of Medical Inspection ...	1,069
No. of cases specially presented to the Medical Officers and School Nurses	1,604
No. of Visits to homes arising out of School Feeding ...	20,402

(*d*) Co-operation of Voluntary Bodies.

Co-operation of voluntary bodies in the work of inspection, following-up, and treatment of the children increases yearly.

Cases of neglect are dealt with by the National Society for the Prevention of Cruelty to Children, usually without resorting to prosecution.

Arrangements have been made with many of the voluntary hospitals for the treatment of certain defects amongst school children. In other cases, voluntary bodies see children referred to them without fee and carry out appropriate investigations. Acknowledgement must also be made of the valuable assistance given by the Invalid Children's Aid Association, the Voluntary Association for Mental Welfare, and Child Guidance Clinics.

BLIND, DEAF, DEFECTIVE, AND EPILEPTIC CHILDREN.

The methods and policy of the Committee for ascertaining and dealing with children who are defective have previously been described. The Committee, however, has under consideration the provision of an open-air residential school, and a Report by a Special Sub-Committee appointed to investigate and report on the provision of an Open-Air Residential School appears at the end of this section.

Blind Children.

The number of children on the Special Register who were considered as blind children in the year 1938 was 84. Of these 15 were totally blind, and 69 had some residual vision.

During the year 7 blind children were reported on, and in the following table the causes of blindness are given.

Congenital Cataract	1
Coloboma of Iris	2
Optic Atrophy	1
Cataract and Nystagmus	2
Ophthalmia Neonatorum	1
	7

The number of children of Elementary School age maintained in 1938 at the following Institutions for the Blind was 24 boys and 25 girls. The annual cost of maintenance was £2,837 0s. 0d., or an average cost of £57 18s. 0d. a child.

	Boys.	Girls.	Total.
Burnley Blind School	–	1	1
Catholic Blind Asylum, Liverpool ...	3	4	7
Homes for the Blind, Fulwood ...	4	6	10
Liverpool School for the Blind ...	3	4	7
Oldham Blind School	–	2	2
Thomasson Memorial School, Bolton...	6	5	11
Henshaw's Institution, Manchester ...	8	–	8
Sunshine Home, Southport	–	2	2
Court Grange Special School, Abbotskerswell	–	1	1
	24	25	49

Deaf Children.

The methods and policy of the Committee for ascertaining and dealing with children who are defective within the meaning of the Elementary Education (Blind and Deaf Children) Acts, 1899 and 1914, have previously been described. In the Education Act, 1921, a deaf child is defined as a child who is too deaf to be taught in a class of hearing children in an Elementary School. Children who are deaf have been divided into two categories :—

(1) Totally deaf, or so deaf that they can only be appropriately taught in a school or class for the totally deaf ; and—

(2) Partially deaf, or those who can appropriately be taught in a school or class for the partially deaf, but who are too deaf to be taught profitably in a class of hearing children in an Elementary school

Section 80 (1) of the Education Act requires local education authorities to provide medical inspection to ascertain the number of children suffering from defective hearing, and subsequently to provide such treatment as may in each case be necessary under the authority's School Medical Service. Where such treatment fails to secure that the child derives proper benefit from instruction in an Elementary school, Section 52 (1) of the Act makes it incumbent upon the authority to provide for his education in a certified special school.

These duties are carried out in Lancashire.

On the Register for 1938, there were 92 deaf children, of whom 49 were totally deaf, and 43 partially deaf.

During the year 14 deaf children of Elementary School Age were reported on.

The causes of their deafness were :—

Congenital	4
Meningitis	5
Otitis Media	1
Catarrhal and Nerve Deafness	1
Not known	3
	14

The importance of sending these cases for special training at the earliest age, at four if possible, cannot be sufficiently impressed on parents and teachers ; time lost at the beginning can never be recovered. The new Act, which came into operation on April 1st, 1938, is an aid in eliminating late admission of cases.

During 1938, there were in attendance at the Special Certified Schools or Classes for the Deaf 45 boys and 32 girls, as shown below. The annual cost of maintenance was £5,355 0s. 0d., or an average cost of £69 10s. 11d. a child.

	Boys.	Girls.	Total.
Burnley Deaf School	1	2	3
Liverpool School for the Deaf	8	7	15
Royal Schools for the Deaf, Manchester	19	8	27
St. John's Institution, Boston Spa	2	3	5
Thomasson Memorial School, Bolton	3	3	6
Royal Cross School for the Deaf, Preston	11	8	19
Oldham Deaf School	1	1	2
	45	32	77

The term "partially deaf" is unsatisfactory and leads to ambiguity so that from the School Medical Officer's point of view the Report of the Committee of Inquiry into Problems Relating to Children with Defective Hearing, published during 1938, is particularly welcome in that it advances a classification of defective hearing, short of total deafness, by grades on an educational basis.

The Board of Education propose to adopt this system of grading which is as follows :—

Grade 1.—

Children with defective hearing who can, nevertheless, without special arrangements *of any kind*, obtain proper benefit from the education provided in an ordinary school—elementary, secondary or technical.

Grade 2.—

Children whose hearing is defective to such a degree that they require for their education special arrangements or facilities, but not the educational methods used for deaf children without naturally acquired speech or language. These facilities range from a favourable position in the ordinary school classroom to attendance at a special class or school.

Grade 2a.—

Those children within Grade 2 who can make satisfactory progress in ordinary classes in ordinary schools provided they are given some help, whether by way of favourable position in class, by individual hearing aids, or by tuition in lip-reading.

Grade 2b.—

Those children within Grade 2 who, even with the help of favourable position in the class, individual hearing aids or tuition in lip-reading, fail to make satisfactory progress in ordinary classes in ordinary schools.

Grade 3.—

Children whose hearing is so defective and whose speech and language are so little developed that they require education by methods used for deaf children without naturally acquired speech or language. This grade includes the totally deaf.

In putting forward this classification the report stresses the lack of objective means of determining deafness and points out that there may be extensive lesions in the ear with little or no diminution in hearing capacity, whilst on the other hand considerable deafness may exist without obvious local signs in the ear. Consequently the question whether a person can or cannot hear must be left to him to answer when a test is applied. This requires the close co-operation of the person tested and obvious difficulties arise, particularly in the case of young children.

The basis of any scheme for the ascertainment and treatment of children with defective hearing should be testing by means of the gramophone audiometer.

In judging whether a child may or may not profit from instruction in an ordinary elementary school, the criterion is his ability to hear and appreciate the spoken word. Hitherto the "forced whisper" test has been commonly used at Routine Medical Inspection, but the Report recommends the use of a "spoken voice" test as being more advantageous, since school-children receive most of their instruction through the medium of the ordinary voice.

It is estimated that the number of children in each grade will be as follows :—

Grade I.—50–80 per 1,000 children in average attendance.

Grade IIa—{0·5–2·0 per 1,000 children in average attendance.
b—{0·5 per 1,000 children in average attendance.

Grade III.—0·7–1·0 per 1,000 children in average attendance.

The Report contains many important recommendations regarding treatment.

Class teachers should be notified at once if any child is found to have even the slightest degree of defective hearing.

Whenever possible a child should be educated in an ordinary school. The child should be placed in the most favourable position in the class-room. This is not in the front row, nearest the teacher, but to the side of the room nearer the windows from which most of the light comes and in the second or third row. Here he is in the best position to lip read.

Children classified in Group II. who are retained in an ordinary school should have a hearing aid if they can benefit by it.

All Grade II. children retained in an ordinary school should be taught to lip read. This can be done by their attendance for one or two periods each week for about an hour at a lip-reading class, or by visits to the school of a peripatetic teacher of lip-reading.

EPILEPTIC CHILDREN.

On the Register there are noted 34 children as suffering from severe Epilepsy. Thirteen of these children are maintained at Institutions for Epileptics, at a cost of £676 16s. 0d., or an average cost of £52 1s. 3d. a child.

MENTALLY DEFECTIVE CHILDREN.

In 1938, there were 362 children noted in the Elementary Education Area as being feeble-minded. In addition, 20 children were notified to the Local Control Authority, in this case the Lancashire Asylums Board, as being ineducable.

Assistant County Medical Officers undertake the examination and certification of mentally defective children in their areas. Such children may be discovered at routine medical inspection or more usually are referred for special examination by school teachers, school attendance officers and others. The new revised Stanford-Binet tests are a valuable adjunct in the making of an accurate diagnosis.

Of much value are the consultations between the Medical Officer and School Teacher whereby the most propitious methods which may be adopted in each individual case are established, and in this respect the Medical Officer is able to give considerable advice and encouragement to the Teacher.

EDUCATION OF THE BLIND.

The education of the Blind has been fully described in a previous Report. It is still necessary to point out that Blind Children educated at Special Schools are not necessarily Blind Persons when they reach school leaving age. For a few years before leaving school special attention is directed towards securing a partial vocational training for these children, so that they are not discharged into a world which is unwilling or unable to receive them.

During the past year the Lancashire Education Committee paid the training fees in respect of 68 students. The following table shows the Institutions the trainees attended, and also the occupations for which they were being trained.

Liverpool School for the Blind, Hardman Street.

	Males.	Females.
Basket Making	4	–
Light Basketry and Machine Knitting	–	1
Machine Knitting and Chair Caning	–	1
Chair and Rush Seating, Light Basketry and Round Machine Knitting	–	1
Machine Knitting	–	1
Mat Making	1	–
Total	5	4

Catholic Blind Asylum, Liverpool.

	Males.	Females.
Mat Making	1	–
Hand and Machine Knitting and Chair Seating ...	–	2
Basket Making	2	–
Machine Knitting	–	1
Total	3	3

Blackburn Workshops for the Blind.

	Males.	Females.
Brush Making	2	–
Machine Knitting	–	5
Total	2	5

Burnley Workshops for the Blind.

	Males.	Females.
Machine Knitting	–	1
Basket Making	5	–
Basket Making and Rush Seating	1	–
Total	6	1

Bolton Workshops for the Blind.

	Males.	Females.
Skip Making	3	–
Basketry	–	3
Mat Making	5	–
Total	8	3

Henshaw's Institution for the Blind, Manchester.

	Males.	Females.
Machine Knitting	–	8
Brush Making	3	–
Basket Making	2	2
Furniture Making	2	–
Mat Making	2	–
Total	9	10

Homes for the Blind, Fulwood.	Males.	Females.
Basket Making	1	–
Brush Making	2	–
Machine Knitting	–	2
Flat Knitting and Chair Caning	–	1
Light Basketry	–	1
Total	3	4

Wigan Workshops for the Blind.		
Skip Making	1	–
Total	1	–

Royal Normal College, London.		
Shorthand and Typewriting	–	1
Total	–	1

Totals, Males	37
Totals, Females	31
Total ...	68

TRAINING OF DEAF PERSONS.

During the year, twenty-three Deaf Persons received secondary education at the Royal Residential School for the Deaf, Old Trafford.

REPORT OF THE SUB-COMMITTEE APPOINTED TO INVESTIGATE AND REPORT ON THE PROVISION OF A RESIDENTIAL OPEN AIR SCHOOL.

At its meeting in December, 1937, the School Medical Sub-Committee of the Education Committee appointed a Sub-Committee to investigate and report on the provision of a Residential Open-Air School, and in January, 1939, this Sub-Committee issued a report in the following terms :—

> "In pursuance of the terms of reference, we desire to report that we have visited open-air schools provided by the Education Committees of the County Boroughs of Birmingham, Oldham and West Ham, and the London County Council, and, in addition, an open-air School of Recovery at Clacton-on-Sea, which was established by a public benefactor and which is now administered by a body of trustees. With the exception of the Oldham school, the schools visited were of the residential type, but in the case of the London County Council School, the children were sent to the school for six weeks only.
>
> We feel competent, therefore, to make observations on the different types of schools, and to submit for your consideration certain conclusions at which we have arrived.
>
> With regard to *day* open-air schools, we desire to say at once that, while we are satisfied that children derive benefit from attending such schools, the benefit is small compared with that derived by children in attendance at *residential* open-air schools. For this reason we do not propose to consider further this type of school.
>
> We were struck by the differences in the residential schools visited. There were differences in size, but more important differences existed, *e.g.*, in lay-out, in staffing, and in conduct. The opinions set out below under appropriate headings have been formed as a result of observation of these differences.

SITE.

It must be borne in mind that the children to be accommodated in an open-air school are delicate, and that they have been sent to the school in order that they may be restored to health and fitted both physically and educationally to return to their ordinary school. The open-air school should, therefore, be bright, healthy and attractive. Fresh air, sunshine and quiet are essential, and there must be sufficient space in the open air for children to indulge in free play.

SIZE.

It is clear from enquiries made that administratively a school of 120 to 150 places is the most suitable. Below these figures the school is relatively more costly to maintain ; above these figures there are difficulties which result from the fact that the children need special attention.

LAY-OUT.

We are unanimously of the opinion that adaptation of existing buildings cannot produce a satisfactory residential open-air school, and that where it is intended to provide such a school, *ad hoc* planning is necessary.

We are informed that at the present time a Committee of the Board of Education has under consideration the question of the best type of building for an open-air school. Nevertheless, we desire to make several observations with regard to the actual lay-out. It should be such that the school is truly open-air. Classrooms, dormitories, rest-rooms, etc., all should be designed to this end. We were much impressed by the progress made by children enjoying truly open-air conditions, as compared with the progress made by the children in schools which did not admit of a completely open-air regime. In properly designed rooms, which are suitably heated, and in suitable clothing, the children do not suffer from cold.

Classrooms, practical rooms, and rest sheds should be detached and scattered, but at the same time they should not be too far from the dining room, etc. Other matters which need careful thought when considering the detailed planning are the kitchen, cloakrooms, closets and urinals, baths and lavatory basins, medical inspection room, teachers' room, dormitories, sick rooms, isolation room, staff accommodation—nursing, teaching and domestic—and clothing store.

SELECTION OF CASES.

Recommendations for the admission of children to residential open-air schools are normally made by school medical officers, general medical practitioners, teachers, school attendance officers and voluntary workers. It is our opinion that the responsibility for the selection of the cases to be admitted should rest with the School Medical Officer.

SUITABLE CASES FOR ADMISSION.

We made enquiries as to the types of children which are suitable for admission to these schools and found that they may be divided into two main groups. In the first group are those which require a prolonged stay, *e.g.*, six to twelve months, in order to recover their health ; in the second group are those which are in ill-health following debilitating diseases, such as measles and whooping cough. These may be expected to recover after a short stay of four to six weeks.

We feel that the first group constitute the greater and more urgent problem for any authority which is contemplating the establishment of a residential open-air school, and that provision should, therefore, be made for them in the first place. In general, the children in the group are sufferers from " chronic debility," but weakness is seldom the only feature. Usually associated with it are such conditions as anæmia, enlarged glands, chronic bronchitis, neurosis, etc.

THE RESULTS OF OPEN-AIR SCHOOLS.

Examples of the results which may be expected were set out in a memorandum placed before the School Medical Committee by the County Medical Officer, and we ourselves have seen similar results. There is no doubt that by a careful selection of children uniformly satisfactory results may be obtained, but we desire to state that our personal observations lead us to the belief that the mere provision of an open-air school and the careful selection of children for admission are not enough to guarantee satisfactory results. The conduct of the school is of paramount importance. Particularly is this so in relation to dietaries, the creation of a joyous atmosphere, play, and rest periods.

DIETARIES.

We have examined the dietaries of the several schools visited, and while we do not feel competent to express any opinion as to the individual constituents of an optimum dietary for an open-air school, we are in a position to make the general statement that in those schools where the dietaries were drawn up in accord with the modern knowledge of dietetics, the children were in a better physical condition than elsewhere.

STAFF.

It is very important that none but cheerful and healthy individuals should be appointed to the staff of an open-air residential school. The atmosphere of the school depends on the staff. A child who is unhappy will not thrive. Unhappiness retards recovery. Happiness conduces to good health. Only those individuals who are able to maintain order without employing an iron discipline should be appointed. The staff, by the influence of their personalities, should be able to inculcate a spirit of happiness in the children, and thereby assist their recovery.

The necessary staff comprises medical officers, nurses, teachers (including a games mistress), cook and assistants, maids, seamstress, engineer, gardeners and laundry hands.

ADMINISTRATION.

We are of the opinion that the administrative arrangements should be in the hands of the School Medical Officer, and that at the head there should be a trained nurse, designated Matron. She should act under the supervision of the visiting physician. Her duties would comprise the supervision of the general hygiene and cleanliness of the children, treatment of minor ailments, assisting the visiting physician and helping the teachers to supervise the rest hours, etc., of the children.

The Matron should be assisted by one trained nurse.

SUMMARY.

Open-Air Schools have these important functions. They receive the physically defective child who, for the time being, is unfit for education, side by side with healthy school-fellows ; they cure or ameliorate the child's ill-health, at the same time providing education suitable to his individual capacity ; in the majority of cases they restore the child to normal health and enable him to be transferred back to the public elementary school, there to continue his education.

We, therefore, stress the desirability of the provision of at least one such school for Lancashire, which should be residential, and we suggest that the School Medical Sub-Committee should empower us to make a recommendation as to its site.

In connection with the provision of such a school, we came to the following conclusions :—

(1) With regard to the type of school, it is essential that the school should be truly open-air. This is a matter not only of design, but also of situation and size of grounds. The school should be able to accommodate 120 to 150 children.

(2) With regard to the conduct of the school :—

- (*a*) The school should be under the administrative charge of the County Medical Officer.
- (*b*) The children should be carefully selected and should stay in the school for a minimum period of six months.
- (*c*) The provision of suitable meals and adequate rest periods, and the careful selection of the staff, are of paramount importance."

THE SCHOOL MEDICAL SERVICE IN RELATION TO SECONDARY SCHOOLS AND OTHER INSTITUTIONS OF HIGHER EDUCATION.

The Secondary Schools number 43, *viz.*, 11 Boys, 7 Girls and 25 Mixed containing in all 15,864 pupils, together with one Day Continuation School and eight Junior Technical Schools whose combined attendance is 903.

MEDICAL INSPECTION.

At present the annual inspection is concentrated particularly on those children who are aged 12 and 15 years. Inspection at other ages is not so rigorous unless there is some indication that it should be so.

In addition to the Medical Inspection of all the Secondary School children in schools "provided" by the County, the services of the staff have been made available for inspection in the six "aided" schools, but to date only three such schools have taken advantage of the facilities.

THE WORK AT ROUTINE VISITS.

(*a*) *Routine Examinations.*

The following table shows the number of routine examinations carried out at each age and at each type of school :—

Age.	No. of Pupils examined.			
	Secondary Schools.		Technical and Continuation Schools.	
	Boys.	Girls.	Boys.	Girls.
8	23	3	...	...
9	50	11	...	...
10	156	133	...	...
11	705	852	...	...
12	1311	1202	23	...
13	319	864	224	...
14	258	751	179	...
15	1114	909	143	...
16	237	321	22	...
17	47	158	4	...
18	14	53	...	...
19	1	1	...	...
TOTALS ...	4235	5258	595	...

(*b*) *Re-examinations.*

Secondary Schools	1805
Technical and Continuation Schools	120

(*c*) *Parents Interviewed.*

Secondary Schools	1067
Technical and Continuation Schools	22

THE WORK DONE AT RE-VISITS.

(*a*) No. of re-visits paid	52
(*b*) No. of children examined	745
(*c*) No. of interviews with parents	27

FINDINGS OF ROUTINE INSPECTIONS.

SECONDARY SCHOOLS.

The table below gives the findings in percentage form :—

			Boys.							*Girls.*						
			Ages 8-11.	Age 12.	Age 13.	Age 14.	Age 15.	Age 16.	Ages 17-19	Ages 8-11.	Age 12.	Age 13.	Age 14.	Age 15.	Age 16.	Ages 17-19
No. Examined ....9,493............			934	1311	319	258	1114	237	62	999	1202	864	751	909	321	212
Classification of Nutrition.	Excellent		17·0	16·5	13·5	16·3	22·8	...	...	3·6	5·9	9·1	10·7	9·6	10·9	9·4
	Normal		75·7	76·7	77·4	80·6	72·9	...	...	80·9	81·5	76·7	80·8	84·5	85·7	86·3
	Slightly Sub-normal	T	2·5	1·8	3·1	...	1·6	...	...	2·0	2·4	2·0	1·3	1·2	0·3	...
		O	4·8	4·9	6·0	3·1	2·6	...	...	13·5	10·0	12·0	7·2	4·6	3·1	4·2
	Bad	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		O	...	0·1	...	...	0·1	...	...	...	0·2	0·1	...	0·1	...	...
% of Pupils having Defects			43·1	40·4	48·9	54·3	40·0	...	...	53·3	47·6	48·7	46·3	51·6	50·5	44·3
Mental Condition.	Dull and Backward	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		O	0·1	0·1	...	...	...	...	...	...	...	...	...	...	...	...
	Feeble-minded	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		O	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Imbeciles	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		O	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Idiots	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		O	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Uncleanliness.	Head	T	...	0·1	...	...	...	...	...	0·1	0·2	...	0·1	...	...	...
		O	...	...	...	...	...	...	...	2·5	2·7	2·2	0·8	1·2	0·3	0·5
	Body	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		O	...	...	...	...	...	...	...	...	0·1	...	...	...	...	...
Teeth.	Four or more Carious	T	7·9	6·2	10·3	17·4	7·8	...	...	8·9	8·2	9·8	10·1	10·0	15·3	7·1
		O	1·4	1·1	1·3	3·1	0·8	...	...	1·4	1·2	1·2	0·8	1·4	1·9	...
	Sepsis	T	0·9	0·3	...	...	0·6	...	...	0·3	0·2	0·2	0·4	0·2	0·3	0·9
		O	0·1	...	...	0·8	...	...	...	...	...	...	...	...	...	...
Skin.	Ringworm. Scalp	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		O	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Ringworm. Body	T	...	0·1	...	...	...	...	...	...	...	...	...	...	...	...
		O	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Scabies	T	...	...	...	...	...	...	...	0·1	...	...	...	...	...	...
		O	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Impetigo	T	0·1	...	...	...	...	...	...	...	...	...	...	...	...	...
		O	...	...	...	...	...	...	...	...	...	...	...	0·1	...	...
	Other Diseases	T	0·4	0·8	...	0·4	1·2	...	...	0·8	1·0	0·5	0·7	1·5	0·3	0·5
	(Non-Tubercular)	O	0·6	0·5	0·3	0·4	1·3	...	...	0·2	0·5	1·5	3·3	2·5	3·4	5·2
Eye Diseases.	Blepharitis	T	0·2	0·5	0·3	0·4	0·2	...	...	0·1	0·2	0·1	...	...	0·6	...
		O	0·2	0·2	0·3	0·4	...	...	...	...	...	0·3	0·1	...	...	...
	Conjunctivitis	T	0·1	0·1	...	...	...	...	...	0·1	...	...	...	0·2	...	...
		O	...	0·1	...	...	...	...	...	0·1	0·1	...	...	0·1	...	...
	Keratitis	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		O	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Corneal Opacities	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		O	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Other Conditions	T	...	...	...	...	...	...	...	0·3	...	...	...	...	...	...
		O	0·1	...	0·9	...	0·1	...	...	...	...	0·1	...	...	...	...
	Defective Vision	T	4·1	5·8	5·0	7·8	8·0	...	...	8·7	8·0	10·6	10·0	9·7	13·4	11·3
		O	9·2	9·8	14·7	13·2	12·2	...	...	7·0	7·2	9·3	10·4	13·1	13·7	12·3
	Squint	T	0·5	0·2	...	...	...	...	...	0·1	0·2	0·1	0·1	0·1	0·3	...
		O	0·9	0·5	0·6	0·8	0·5	...	...	0·6	0·7	0·9	0·8	0·2	...	...

				Boys.							Girls.						
				Ages 8-11.	Age 12.	Age 13.	Age 14.	Age 15.	Age 16.	Ages 17-19	Ages 8-11.	Age 12.	Age 13.	Age 14.	Age 15.	Age 16.	Ages 17-19
Ear Diseases.		Defective Hearing	T	...	0·2	...	0·4	0·3	...	...	0·3	0·1	0·2	0·1	0·1	...	...
			O	0·6	0·5	0·6	0·4	0·7	...	...	0·4	0·4	0·6	0·3	0·1	0·6	0·5
		Otitis Media	T	0·2	0·2	...	...	0·1	...	...	0·2	0·3	...	...	0·1	...	...
			O	...	0·1	0·6	...	0·2	...	...	...	...	0·2	...	0·2	...	...
		Other Ear Diseases	T	1·2	0·4	1·9	1·6	0·4	...	...	0·1	0·4	0·8	0·1	0·1	0·3	0·5
			O	0·2	0·2	0·3	...	...	...	...	...	...	...	...	0·1	...	...
Nose and Throat.		Chronic Tonsillitis	T	0·4	0·9	0·9	0·4	0·1	...	...	1·7	1·4	2·1	1·6	1·1	0·6	...
			O	4·9	3·7	2·5	1·6	2·3	...	...	9·7	7·7	8·0	6·8	4·2	5·0	5·7
		Adenoids	T	0·3	0·1	...	...	...	...	...	...	0·1	...	...	...	...	...
			O	0·3	0·1	0·3	...	0·1	...	...	0·1	0·3	...	...	0·1	...	...
		Chronic Tonsillitis and Adenoids	T	0·9	0·2	0·3	...	...	...	...	0·3	0·2	...	0·3	...	...	...
			O	0·9	0·6	0·3	1·2	0·8	...	...	0·3	0·1	...	...	0·1	...	...
		Other Conditions	T	0·3	0·5	0·9	0·4	0·5	...	...	1·2	0·7	0·9	0·9	0·3	1·2	...
			O	1·0	1·3	0·6	1·6	0·8	...	...	0·3	0·7	0·7	0·3	0·4	...	...
Enlarged Cervical Glands			T	...	...	...	...	...	...	...	0·3	0·2	...	0·4	...	...	...
(Non-Tubercular)			O	2·4	1·1	1·6	2·7	0·4	...	...	2·4	1·5	0·8	0·9	0·4	0·3	...
Defective Speech			T	...	0·1	...	...	...	...	...	0·1	...	...	...	...	0·3	...
			O	0·3	0·5	0·6	1·2	0·4	...	...	...	0·1	0·3	0·1	...	0·6	...
Heart and Circulation.	Heart Disease	Organic	T	...	...	...	0·4	...	...	...	...	0·1	...	0·1	...	0·3	...
			O	0·1	0·2	...	0·4	0·5	...	...	1·0	0·7	0·2	0·8	0·9	0·9	0·5
		Functional	T	...	...	0·3	...	0·1	...	...	0·1	...	...	...	...	...	...
			O	2·0	0·8	1·6	1·2	1·4	...	...	3·0	1·9	2·7	1·2	2·9	1·6	4·2
		Anæmia	T	0·6	0·3	0·3	0·4	0·2	...	...	0·4	0·4	0·5	0·3	0·8	0·6	0·9
			O	0·1	0·2	0·3	...	0·1	...	...	0·8	0·4	0·6	0·5	0·9	...	0·5
Lungs.		Bronchitis	T	0·3	0·7	...	...	0·2	...	...	0·1	...	...	...	...	...	...
			O	...	0·2	...	...	0·2	...	...	0·4	0·2	0·2	...	0·1	...	0·5
		Other Non-Tubercular Diseases	T	...	...	...	...	0·1	...	...	0·3	0·1	0·2	...	...	0·3	...
			O	0·6	0·5	0·3	1·6	0·7	...	...	0·6	0·5	0·3	0·3	0·1	0·3	...
Tuberculosis.	Pulmonary.	Definite	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
			O	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Suspected	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
			O	...	...	...	...	...	...	...	...	...	0·1	...	...	...	...
	Non-Pulmonary.	Glands	T	...	...	...	...	...	...	...	0·1	...	...	0·1	...	...	...
			O	0·2	...	...	...	...	...	...	...	0·1	...	...	...	...	...
		Bones and Joints	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
			O	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Skin	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
			O	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Other Forms	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
			O	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Nervous System.		Epilepsy	T	...	...	...	...	0·1	...	...	...	...	...	...	...	...	...
			O	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Chorea	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
			O	0·2	...	...	...	...	...	...	...	0·1	...	...	...	...	...
		Other Conditions	T	...	...	...	...	...	...	...	0·1	0·2	...	...	...	...	...
			O	0·2	...	...	...	...	...	...	0·2	0·2	0·1	0·1	0·1	...	0·9
Deformities.		Rickets	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
			O	0·1	...	0·3	...	...	...	...	...	...	...	...	...	...	...
		Spinal Curvature	T	0·1	...	0·3	0·8	0·4	...	...	1·0	0·9	1·0	0·7	0·8	0·3	0·9
			O	0·7	0·5	...	0·4	0·4	...	...	0·5	0·8	0·7	0·8	0·1	0·3	...
		Other Forms	T	1·4	1·6	1·3	...	0·9	...	...	3·1	2·2	1·5	1·6	2·9	2·2	1·9
			O	3·7	2·5	1·6	1·2	2·1	...	...	3·6	3·8	2·5	1·3	2·5	0·9	0·9
Other Defects and Diseases			T	1·7	0·5	1·6	2·3	1·1	...	...	0·8	0·5	0·5	0·9	0·6	0·3	1·4
			O	4·2	3·8	2·5	1·9	2·2	...	...	0·9	1·0	1·2	2·1	1·4	0·9	2·4

The following table gives a summary of the visual acuity, as determined by the Snellen Test Types, of all the pupils examined.

Boys.

Age last Birthday.	Number Examined.	6		9		12		18		24		36		60		0	
		R.	L.	R.	L.	R.	L	R.	L.	R.	L.	R.	L.	R.	L.	R.	L.
8 9 10 11	933	85·9	85·0	6·1	6·4	2·8	2·9	1·6	2·4	1·1	1·2	0·9	0·5	1·0	0·7	0·6	0·9
12	1311	82·4	81·6	5·9	6·3	3·4	2·3	1·8	2·7	2·8	2·2	1·7	2·2	1·4	2·0	0·5	0·6
13	305	81·0	80·3	4·6	5·6	4·6	3·9	2·0	0·3	0·6	1·3	2·6	2·9	3·6	2·3	1·0	3·3
14	238	76·5	74·8	3·4	5·9	4·6	3·4	2·5	0·4	3·8	4·2	2·5	2·5	4·6	4·6	2·1	4·2
15	1114	76·5	76·5	8·0	8·1	4·8	4·1	3·0	3·8	2·5	2·0	2·4	2·5	2·0	1·9	0·8	1·1
16	208	71·1	70·2	5·3	5·3	2·9	8·2	5·8	3·8	5·3	5·3	2·4	1·4	1·9	1·0	5·3	4·8
17 18 19	52	55·8	53·8	9·6	7·7	7·7	11·5	7·7	3·8	3·8	5·8	7·7	9·6	1·9	1·9	5·8	5·8

Girls.

Age last Birthday.	Number Examined.	6		9		12		18		24		36		60		0	
		R.	L.	R.	L.	R.	L.	R.	L.	R.	L.	R.	L.	R.	L.	R.	L.
8 9 10 11	999	81·4	80·8	6·7	7·0	3·2	3·2	3·1	3·4	1·8	2·9	1·9	1·2	1·1	0·9	0·7	0·5
12	1202	81·6	79·1	6·9	8·3	4·4	4·6	2·6	2·6	1·4	1·9	1·4	1·7	0·7	0·8	0·9	1·0
13	864	78·0	77·3	7·3	7·4	4·6	4·0	2·5	3·9	1·9	2·3	2·5	2·0	1·7	1·6	1·4	1·4
14	751	76·8	77·8	7·8	7·4	4·1	4·4	3·1	2·1	2·8	1·5	2·0	2·7	1·6	2·1	1·7	2·0
15	909	74·0	73·0	6·7	8·7	4·5	5·7	3·7	2·9	3·0	3·0	3·2	3·1	2·7	2·0	2·1	1·6
16	320	77·5	75·3	5·0	6·2	5·0	5·6	2·8	3·1	2·8	2·5	1·9	1·6	2·2	2·8	2·8	2·8
17 18 19	211	73·9	73·9	7·1	7·6	3·8	3·8	4·7	1·9	0·9	3·3	2·8	2·8	4·3	4·7	2·4	1·9

TECHNICAL AND CONTINUATION SCHOOLS.

The following table shows in percentages the results of the routine medical inspection of Technical and Continuation Schools.

			Boys.							Girls.						
			Ages 8-11.	Age 12.	Age 13.	Age 14.	Age 15.	Age 16.	Ages 17-19	Ages 8-11.	Age 12.	Age 13.	Age 14.	Age 15.	Age 16.	Ages 17-19
No. Examined ....595.........			...	23	224	179	143	22	4	...	...	...	...	...	...	...
Classification of Nutrition.	Excellent		...	13·0	18·3	19·0	13·3	4·5	...	...	...	...	...	...	...	...
	Normal		...	65·2	67·4	77·1	83·2	95·5	100·0	...	...	...	...	...	...	...
	Slightly Sub-normal	T	...	...	4·9	...	...	...	...	...	...	...	...	...	...	...
		O	...	21·7	8·9	3·9	3·5	...	...							
	Bad	T	...	...	0·4	...	...	...	...	...	...	...	...	...	...	...
		O	...	...	...	...	...	...	...	...	...	...	...	...	...	...
% of **Pupils having Defects**			...	47·8	37·1	49·7	44·8	31·8	50·0	...	...	...	...	...	...	...
Mental Condition.	Dull and Backward	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		O	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Feeble-minded	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		O	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Imbeciles	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		O	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Idiots	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		O	...	...	...	...	...	...	...	...	...	...	...	...	...	...

				Boys.							Girls.						
				Ages 8-11.	Age 12.	Age 13.	Age 14.	Age 15.	Age 16.	Ages 17-19	Ages 8-11.	Age 12.	Age 13.	Age 14.	Age 15.	Age 16.	Ages 17-19
Uncleanliness.		Head	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
			O	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Body	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
			O	...	...	...	0·6	...	...	...	...	...	...	...	...	...	...
Teeth.		Four or more Carious	T	...	...	7·1	2·8	9·1	4·5	...	...	...	...	...	...	...	...
			O	...	...	0·9	2·8	...	...	...	...	...	...	...	...	...	...
		Sepsis	T	...	...	1·3	0·6	...	...	...	...	...	...	...	...	...	...
			O	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Skin.	Ringworm.	Scalp	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
			O	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Body	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
			O	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Scabies	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
			O	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Impetigo	T	...	...	...	0·6	...	...	...	...	...	...	...	...	...	...
			O	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Other Diseases (Non-Tubercular)	T	...	...	2·2	2·8	0·7	...	...	...	...	...	...	...	...	...
			O	...	...	0·9	2·2	1·4	...	...	...	...	...	...	...	...	...
Eye Diseases.		Blepharitis	T	...	...	0·4	1·7	...	...	...	...	...	...	...	...	...	...
			O	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Conjunctivitis	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
			O	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Keratitis	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
			O	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Corneal Opacities	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
			O	...	...	0·4	...	...	...	...	...	...	...	...	...	...	...
		Other Conditions	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
			O	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Defective Vision	T	...	13·0	5·4	7·8	3·5	...	25·0	...	...	...	...	...	...	...
			O	...	17·4	6·7	11·7	11·2	9·1	25·0	...	...	...	...	...	...	...
		Squint	T	...	...	...	0·6	...	...	...	...	...	...	...	...	...	...
			O	...	...	...	1·1	8·4	13·6	...	...	...	...	...	...	...	...
Ear Diseases.		Defective Hearing	T	...	...	0·4	...	...	...	...	...	...	...	...	...	...	...
			O	...	...	0·9	0·6	...	...	...	...	...	...	...	...	...	...
		Otitis Media	T	...	...	0·9	0·6	1·4	...	...	...	...	...	...	...	...	...
			O	...	...	...	...	0·7	...	...	...	...	...	...	...	...	...
		Other Ear Diseases	T	...	...	...	1·1	0·7	...	...	...	...	...	...	...	...	...
			O	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Nose and Throat.		Chronic Tonsillitis	T	...	...	1·3	1·7	0·7	...	...	...	...	...	...	...	...	...
			O	...	8·7	4·9	6·7	8·4	4·5	...	...	...	...	...	...	...	...
		Adenoids	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
			O	...	...	0·4	...	...	...	...	...	...	...	...	...	...	...
		Chronic Tonsillitis and Adenoids	T	...	...	0·4	...	...	...	...	...	...	...	...	...	...	...
			O	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Other Conditions	T	...	...	0·4	...	...	...	...	...	...	...	...	...	...	...
			O	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Enlarged Cervical Glands (Non-Tubercular)			T	...	...	0·9	...	...	...	...	...	...	...	...	...	...	...
			O	...	...	1·8	2·2	3·5	4·5	...	...	...	...	...	...	...	...
Defective Speech			T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
			O	...	...	...	0·6	...	...	...	...	...	...	...	...	...	...
Heart and Circulation.	Heart Disease	Organic	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
			O	...	...	...	1·1	...	...	...	...	...	...	...	...	...	...
		Functional	T	...	...	0·4	0·6	...	...	...	...	...	...	...	...	...	...
			O	...	8·7	0·4	0·6	3·5	...	...	...	...	...	...	...	...	...
		Anæmia	T	...	...	0·9	...	...	...	...	...	...	...	...	...	...	...
			O	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Lungs.		Bronchitis	T	...	...	0·9	1·1	...	...	...	...	...	...	...	...	...	...
			O	...	...	...	0·6	2·8	...	...	...	...	...	...	...	...	...
		Other Non-Tubercular Diseases	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
			O	...	...	...	4·5	5·6	9·1	...	...	...	...	...	...	...	...
Tuberculosis.	Pulmonary.	Definite	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
			O	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Suspected	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
			O	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Non-Pulmonary.	Glands	T	...	...	...	0·6	...	...	...	...	...	...	...	...	...	...
			O	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Other Bones and Joints	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
			O	...	...	0·4	...	...	...	...	...	...	...	...	...	...	...
		Skin	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
			O	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Other Forms	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
			O	...	...	...	...	...	...	...	...	...	...	...	...	...	...

			Boys.							Girls.						
			Ages 8-11	Age 12.	Age 13.	Age 14.	Age 15.	Age 16.	Ages 17-19	Ages 8-11.	Age 12.	Age 13.	Age 14.	Age 15.	Age 16.	Ages 17-19
Nervous System.	Epilepsy	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		O	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Chorea	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		O	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Other Conditions	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		O	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Deformities.	Rickets	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		O	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Spinal Curvature	T	...	...	...	0·6	...	...	...	...	...	...	...	...	...	...
		O	...	...	0·4	0·6	0·7	...	...	...	...	...	...	...	...	...
	Other Forms	T	...	...	3·1	3·4	0·7	...	...	...	...	...	...	...	...	...
		O	...	...	0·4	4·5	...	...	...	...	...	...	...	...	...	...
Other Defects and Diseases		T	...	...	1·3	2·2	...	...	...	...	...	...	...	...	...	...
		O	...	4·3	3·1	3·4	0·7	...	...	...	...	...	...	...	...	...

The following table gives a summary of the visual acuity, as determined by the Snellen Test Types, of all the pupils examined :—

Boys

Age last Birthday.	Number Examined.	6		9		12		18		24		36		60		0	
		R.	L.	R.	L.	R.	L.	R.	L.	R.	L.	R.	L.	R.	L.	R.	L.
8 9 10 11	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
12	23	78·2	78·2	8·7	8·7	8·7	4·3	...	4·3	...	...	4·3	4·3	...	...	...	...
13	224	85·7	83·5	6·7	8·9	3·1	4·0	3·1	1·3	...	0·4	0·4	0·4	0·9	0·4	...	0·9
14	177	80·8	76·8	4·0	6·2	5·1	4·5	1·1	3·4	3·4	2·8	2·8	2·8	1·7	1·7	1·1	1·7
15	138	76·1	74·6	10·1	8·7	4·3	5·1	2·9	4·3	0·7	3·6	2·9	1·4	1·4	0·7	1·4	1·4
16	22	72·7	86·4	9·1	4·5	...	...	9·1	...	...	...	...	9·1	...	...	9·1	...
17 18 19	4	75·0	50·0	...	...	...	25·0	...	...	...	...	25·0	25·0	...	...	...	...

TREATMENT.

In most of the cases for which treatment has been recommended the parents can afford to make arrangements for it to be carried out privately. In a few cases, however, they cannot do so. In order that the children may be able to receive treatment the facilities available for Elementary School children are offered to them. There is, however, a limited number of County Council school clinics available, because some of the Secondary Schools are in the areas of Part III. Authorities. To overcome this difficulty arrangements have been made wherever possible with the Part III. Authorities for the attendance of such cases at their clinics on a basis of payment per case or per attendance. At present arrangements exist with Ashton-under-Lyne, Darwen, Farnworth, Haslingden, Ince-in-Makerfield, Morecambe, Radcliffe, Rawtenstall, Stretford and Widnes.

The following tables show in summary form the amount, kind and results of the treatment obtained during 1938 :—

SECONDARY SCHOOLS.

Minor Ailments.

Boys.

DISEASE OR DEFECT.	NUMBER OF PUPILS.								
	Re-ferred for Treat-ment.	Treated.			Result.			Un-treated.	No Infor-mation.
		Under Autho-rity's Scheme.	Other-wise.	Total.	Cured.	Im-proved.	Un-changed		
Skin—									
Ringworm—Scalp ...	...	...	...	...	...	...	...	...	...
Ringworm—Body ...	1	...	1	1	1	...	...	...	...
Scabies	1	1	...	1	1	...	...	...	...
Impetigo	2	1	1	2	2	...	...	...	...
Other Skin Disease ...	18	...	13	13	5	6	2	1	4
Ear Disease	26	...	17	17	13	4	...	7	2
Eye Disease (external and other)	8	4	4	8	5	3	...	...	...
Dental Disease	218	9	105	114	93	21	...	50	54
Other Diseases	29	1	19	20	12	7	1	3	6

Girls.

DISEASE OR DEFECT.	NUMBER OF PUPILS.								
	Re-ferred for Treat-ment.	Treated.			Result.			Un-treated.	No Infor-mation
		Under Autho-rity's Scheme.	Other-wise.	Total.	Cured.	Im-proved.	Un-changed		
Skin—									
Ringworm—Scalp ...	...	...	...	...	...	...	...	...	...
Ringworm—Body ...	...	...	...	...	...	...	...	...	...
Scabies	...	...	...	...	...	...	...	...	...
Impetigo	1	...	1	1	1	...	...	...	...
Other Skin Disease ...	51	...	43	43	30	13	...	...	8
Ear Disease	39	3	26	29	16	12	1	5	5
Eye Disease (external and other)	5	...	5	5	3	2	...	...	...
Dental Disease	487	35	268	303	138	125	40	118	66
Other Diseases	77	2	60	62	40	22	...	3	12

Defective Vision and Squint.

	NUMBER OF PUPILS.													
	Referred for Refraction.	Submitted to Refraction.				Result of Refraction.							Not Refracted.	No Information.
		Under Authority's Scheme—Clinic, or Hospital.	By Private Practitioner or Hospital.	Otherwise.	Total.	Under Authority's Scheme—Clinic or Hospital		By Private Practitioner, Hospital or otherwise.		Treatment other than by Glasses.		For whom no treatment was considered necessary.		
						Glasses Prescribed	Glasses Obtained.	Glasses Prescribed	Glasses Obtained	Recommended.	Received.			
Boys	249	70	80	50	200	69	68	124	124	2	2	5	19	30
Girls	572	204	126	121	451	198	110	236	324	2	2	15	36	85

Treatment of Defects of Nose and Throat.

	NUMBER OF PUPILS.															
	Referred for Treatment.	Received Operative Treatment.												Received other forms of Treatment.	Untreated.	No Information
		Under Authority's Scheme—Clinic or Hospital.				By Private Practitioner or Hospital.				Total.						
		(a)	(b)	(c)	(d)	(a)	(b)	(c)	(d)	(a)	(b)	(c)	(d)			
Boys	52 ...	5	...	3	1	5	1	9	...	10	1	12	1	2	22	4
Girls	70 ...	6	1	3	...	8	...	7	1	14	1	10	1	15	21	8

(*a*) Tonsils only. (*b*) Adenoids only. (*c*) Tonsils and Adenoids. (*d*) Other defects of Nose and Throat.

Orthopædic and Postural Defects.

	UNDER AUTHORITY'S SCHEME.			OTHERWISE.			
	Residential Treatment with Education.	Residential Treatment without Education	Non-residential Treatment at an Orthopædic Clinic.	Residential Treatment with Education.	Residential Treatment without Education	Non-residential Treatment at an Orthopædic Clinic.	Total Number of Individual Childreu Treated.
Boys ...	...	...	8	...	...	1	9
Girls ...	...	1	19	...	4	2	26

TECHNICAL AND CONTINUATION SCHOOLS.

Minor Ailments.

Boys.

DISEASE OR DEFECT.	NUMBER OF PUPILS.								
	Referred for Treatment.	Treated.			Result.			Untreated.	No Information.
		Under Authority's Scheme.	Otherwise.	Total.	Cured.	Improved.	Unchanged		
Skin—									
Ringworm—Scalp ...	...	...	...	...	...	...	...	...	...
Ringworm—Body ...	...	...	...	...	...	...	...	...	...
Scabies	...	...	...	...	...	...	...	...	...
Impetigo	...	...	...	...	...	...	...	...	...
Other Skin Disease ...	1	...	1	1	1	...	...	...	...
Ear Disease	1	...	...	...	...	...	...	1	...
Eye Disease (external and other)	1	...	...	...	...	...	...	...	1
Dental Disease	19	1	4	5	2	3	...	7	7
Other Diseases	2	1	...	1	1	...	...	...	1

Defective Vision and Squint.

	Number of Pupils.													
	Referred for Refraction.	Submitted to Refraction.				Result of Refraction.							Not Refracted.	No information.
		Under Authority's Scheme—Clinic or Hospital.	By Private Practitioner, or Hospital.	Otherwise.	Total.	Under Authority's Scheme—Clinic or Hospital		By Private Practitioner, Hospital, or otherwise.		Treatment other than by Glasses.		For whom no treatment was considered necessary.		
						Glasses Prescribed	Glasses Obtained	Glasses Prescribed	Glasses Obtained.	Recommended.	Received.			
Boys	18	4	4	2	10	4	3	6	6	...	...	...	1	7

Treatment of Defects of Nose and Throat.

	Number of Pupils.															
	Referred for Treatment.	Received Operative Treatment.												Received other forms of Treatment.	Untreated.	No information.
		Under Authority's Scheme—Clinic or Hospital.				By Private Practitioner or Hospital.				Total.						
		(*a*)	(*b*)	(*c*)	(*d*)	(*a*)	(*b*)	(*c*)	(*d*)	(*a*)	(*b*)	(*c*)	(*d*)			
Boys	4	...	...	...	...	...	...	1	1	...	...	1	1	...	2	...

(*a*) Tonsils only. (*b*) Adenoids only. (*c*) Tonsils and Adenoids. (*d*) Other defects of Nose and Throat.

Orthopædic and Postural Defects.

	UNDER AUTHORITY'S SCHEME.			OTHERWISE.			Total Number of Individual Children Treated.
	Residential Treatment with Education.	Residential Treatment without Education.	Non-residential Treatment at an Orthopædic Clinic.	Residential Treatment with Education.	Residential Treatment without Education	Non-residential Treatment at an Orthopædic Clinic.	
Boys ...	...	...	...	1	...	...	1

PARENTS' PAYMENTS.

In the case of minor ailments and dental treatment only a nominal sum is charged. For refractions no charge is made. Payment for all other types of treatment is made according to scales of income.

In regard to Secondary School children, wherever it is known that the parents cannot afford to pay for the treatment privately they are offered the facilities which are available for Elementary School children.

HEALTH EDUCATION.

In addition to the usual talks given in school to children and parents on Hygiene and Infectious Disease, etc., members of the Medical Staff have engaged in public speaking on numerous occasions during the past year. Lectures and talks were given to the general public at Air Raid Precaution Meetings, and at Health Week Demonstrations organised by several local authorities. Other bodies addressed included:—Head Teachers' Association, Student Teachers' Class, Midwives Association, Women's Institutes and Guilds, Society of Friends, Parents' Association, Mothers' Unions, etc.

Among the subjects covered were :—

Health Services of the County
The State and the Child
First Aid (A.R.P.)
Diphtheria Immunisation
Care of the Feet
The Infant—some practical hints
The Psychology of the Child.

Social Hygiene
Milk
Adolescence and Middle Age
Habits—their influence on health
Length of Days.

SPECIAL INQUIRIES.

The following papers have been contributed by members of the Staff. It is to be understood that the opinions expressed are those of the contributors, and not necessarily those of the County Medical Officer.

The following paper has been submitted by Dr. R. W. Eldridge. It supplements his contribution on " Defective Hearing in School Children as measured by the Gramophone Audiometer," which was published last year.

BACKWARDNESS IN ELEMENTARY SCHOOL CHILDREN WITH DEFECTIVE HEARING.

This report is the result of work which has been carried out in collaboration with Mrs. I. R. Ewing, M.Sc., and the Staff of the Department of Education of the Deaf, Manchester University. Originally begun as an independent investigation it was later found possible for the work to form part of a larger scheme for making mental measurements of children with defective hearing and which has been undertaken in the above Department by Drs. A. W. G. Ewing and D. A. Gandine-Stanton, with the financial support of the Medical Research Council and the Leverhulme Trustees.

Children in the elementary schools of Atherton, Tyldesley and Westhoughton found to have defective hearing using the gramophone audiometer were taken to the Department of Education of the Deaf, Manchester University, where they underwent some, or all of the tests discussed below. In all, 132 children have had these further tests.

1.—Pure Tone Audiometer Tests.

Each ear was tested separately with the Pure Tone Audiometer at seven frequencies ranging from 128 to 8,192 Hertz. Of the 132 tested all but six showed a hearing loss of less than 26 per cent., corresponding to 35 decibels, which is suggested by the Board of Education (1), as the minimum amount of loss requiring special arrangements in the way of artificial help in class. Children whose hearing loss is below this limit are designated as Grade I. children.

The following table shows the number of children with different percentages loss of hearing. The results for 120 children only are shown, as for various reasons it was found necessary to exclude the remaining 12. This percentage loss of hearing is estimated by taking the average of the loss at the frequencies 512, 1024 and 2048, and multiplying by the factor 0·8, according to the formula adopted by the Bell-Telephone Laboratories, New York.

TABLE I.

Distribution of hearing loss measured by the Pure Tone Audiometer and converted into percentage loss of hearing in the better ears of 120 children.

Percentage loss of hearing ...	0—10	11—20	21—30	31—40
No. of children	35	65	16	4

The results of the pure tone tests in the first 92 children were then compared with those from the gramophone audiometer in order to see whether there was sufficient correlation between the two to show that both instruments are reliable.

TABLE II.

Comparison of percentage loss of hearing measured by Pure Tone Audiometer with loss in decibels shown by Gramophone Audiometer test, using Western Electric three figure record.

Percentage loss of hearing P.T. Audiometer.	Number of ears.	Loss of hearing in decibels Gram. Audiometer.	
		Range.	Mean.
0—10	48	—3 to 21	4
11—20	84	—3 to 24	8
21—30	28	3 to 30	11
31—40	14	3 to 30	14
41—50	6	18 to 30	15
51—60	4	12 to 24	22

Comments.

The fact that in every case where a child had shown loss of hearing by the gramophone audiometer there was loss also with the Pure Tone Audiometer, indicates that the gramophone type is a very useful means of determining loss of hearing.

It will be seen, however, from Table II. that there is no substantial agreement between the two if we consider any particular degree of hearing loss. For instance, with a percentage loss on the pure tone audiometer of 21–30, the loss of hearing with the gramophone audiometer may be anything between 3–30 decibels. The results with the gramophone, although valid for the detection of loss of hearing, cannot be relied upon to indicate its extent. Notwithstanding the fact that the mean hearing loss with the gramophone increases with percentage of hearing loss in the pure tones, the range of gramophone loss is so wide that the instrument cannot be relied upon as an accurate means of measuring hearing loss in the individual case.

That results of pure tone tests are reliable will be seen from the next section.

There are two further difficulties with the gramophone audiometer. The first is that it cannot be used for children below the age of eight, and is not completely satisfactory for children below nine or possibly ten. In the present work, although the great majority of children were aged ten or over it was necessary to have three gramophone tests before extraneous causes for poor scoring could be excluded. Secondly, there is difficulty in finding the right type of record to use. Seventy-five children were tested with the usual Western Electric three-figure record and also with a special record of much more slowly spoken numbers, by the courtesy of A. G. Wells, Esq., J.P., F.R.C.S., Chief Aurist (Principal Assistant Medical Officer of Health), London County Council. The slowness of the spoken numbers makes this an easier record and with it better results were obtained in the great majority of cases. The simplicity or otherwise of the gramophone record used is obviously an important factor determining the efficiency of the instrument.

2.—HEARING FOR SPEECH.

A sample of 40 of the children were submitted to tests in a laboratory of Manchester University for the capacity to hear speech with the unaided ear at a distance of three feet. The material of the tests consisted of nonsense syllables prepared by the method adopted by Fletcher and Steinberg (2). The speakers maintained an approximately even loudness of voice with the help of an output metre attached to a suitable valve amplifier. Reverberation was prevented by an application of an asbestos preparation to the ceiling. The position of speakers and listeners respectively in the laboratory were the same throughout the tests. There was no opportunity for lip-reading.

It is recognised that nonsense syllables are not ideal material for testing children and that they may tend to give an excessive estimate of children's difficulty in hearing speech. However, other material such as numbers was tried, without success, and the results with nonsense syllables certainly have great relative value.

TABLE III.

Comparison of percentage loss of hearing measured by Pure Tone Audiometer with percentage loss of hearing for speech, using nonsense syllables.

Percentage loss of hearing P.T. Audiometer.	Number of children.	Percentage loss of hearing for speech.	
		Range.	Mean.
0—10	9	0—51	24
11—20	20	12—75	31
21—30	9	28—89	65
31—40	2	84—96	90

Comments.

The scatter of loss of hearing for speech is wide for any given loss shown by the Pure Tone Audiometer test but there is a very definite indication that a pure tone loss greater than 10 per cent. may interfere to a significant or even to a severe extent with the capacity to hear speech correctly even at the short distance of three feet. Although all these children are in Grade I., for whom it is recommended no special help be provided, many are greatly handicapped for hearing speech adequately.

3.—BACKWARDNESS AND DEFECTIVE HEARING.

An attempt has been made to find out whether, as a whole, these children with defective hearing show backwardness in their educational attainment. Burt's reading tests (3) were used for all the 132 children and the same tests were applied to a group of normal children attending a similar type of school in an industrial town in the same part of the County. These controls were of ages 12 to 14 and the 88 children of this age, out of the 132, may therefore be compared. The method of scoring is by simply taking the number of tests which the child gets right and the scores of the two groups compared. It is not so easy to assess the corresponding ages but it is possible to say that these children with defective hearing show on the average approximately two years retardation in reading.

TABLE IV.

Comparison of results of Burt's reading tests applied to partially deaf children with results from control group

Age. (years and months).	Partially deaf children.			Control children.		
	No.	Mean Score.	Range.	No.	Mean Score.	Range.
Boys.						
13·0—13·11 ...	23	*12*	8—17	31	*14*	11—17
12·0—12·11 ...	15	*12*	0—15	14	*13*	7—17
Girls.						
13·0—13·11 ...	30	*11*	0—16	20	*13*	4—17
12·0—12·11 ...	20	*10*	0—15	20	*13*	10—16

Of the 132 children there were 11 who could not read. The extent of their loss of hearing is shown in the following table.

Table V.

Loss of hearing in eleven children who could not read.

Child.	Age.	Percentage loss of hearing P.T. Audiometer.		Percentage loss of hearing for speech.	
		R. ear.	L. ear.	3 feet.	9 feet.
1	13·4	15	13		
2	13·1	24	8		
3	12·11	15	17		
4	12·9	16	20	13	21
5	12·9	19	19		
6	12·5	11	27		
7	12·4	16	20		
8	11·7	7	37		
9	10·1	5	33	51	64
10	9·5	27	13	59	75
11	9·4	25	27	Could not respond to test.	

Comments.

Table IV. shows that the mean score of those with defective hearing is definitely below that of the control group.

Table V., which shows the hearing loss in detail of those who could not read shows that these children were no exception in that all have some degree of deafness and that the loss in some cases was very considerable. It is also seen that monaural deafness is a handicap for hearing speech.

In the few who were tested for capacity to hear speech the loss increased with distance.

It is also very significant that out of the 132 children there were 127 aged ten or over and of these nine, or 7 per cent., were non-readers.

4.—THE USE OF HEARING AIDS.

The experimental work with regard to the use of hearing aids is at present incomplete but the results given by the first 38 children tested are of interest. The same kind of test was used as in the speech tests with the unaided ear but in this case a double auricle was used.

The results were as follows :—

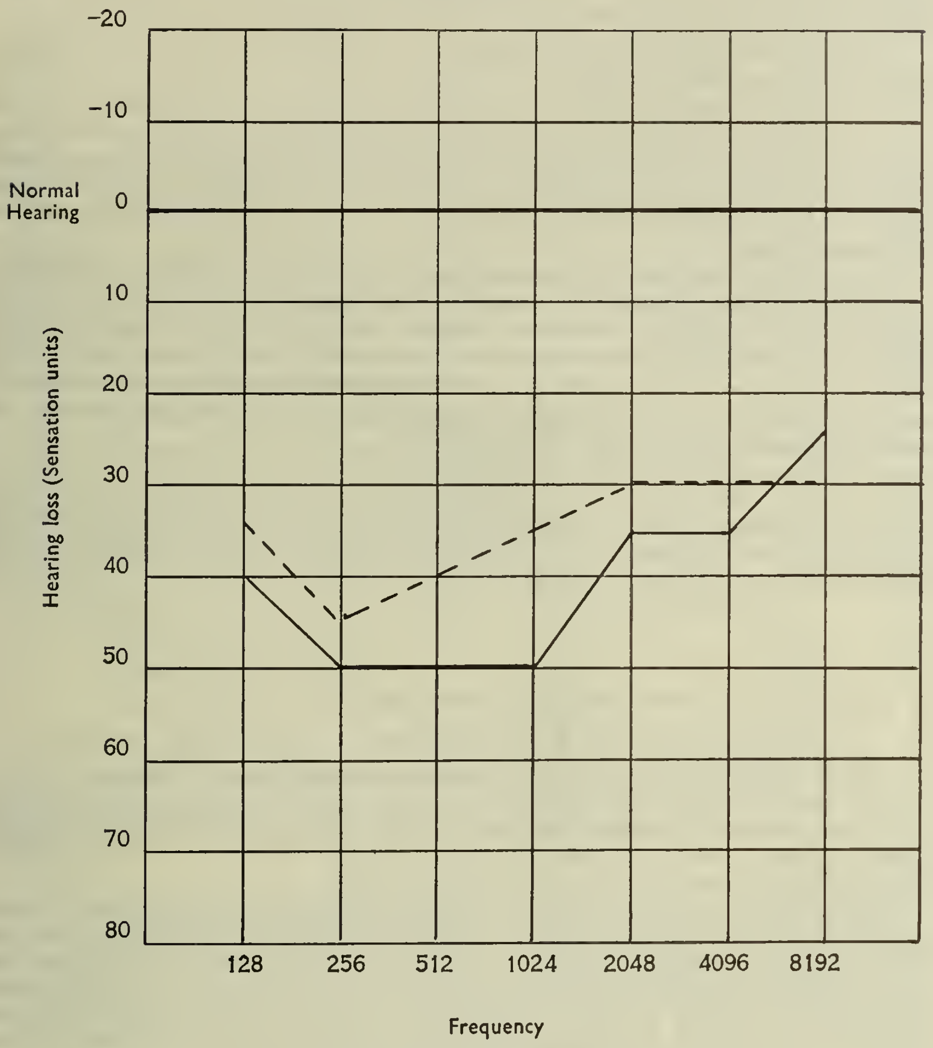
38 children have been tested (ages 10—14).
17 children showed improved hearing, average gain being 9 per cent.
14 children showed worse hearing, average loss being 12 per cent.
7 Children showed no change.

These figures indicate that the widespread use of auricles cannot be recommended at this stage.

There is the further question of the use of electrical aids with the microphone immediately in front of the teacher. There is no doubt that such aids would greatly improve hearing in many cases, but the necessity for their individual attention and the complication from background noises raise great difficulties.

The following details of a girl, aged 11, show how valuable a valve aid can be.

Audiogram.



Percentage loss of hearing.

	P.T. Aud.	Speech.		
		3 feet.	9 feet.	
	30	83	97·4	
			92	with auricles.
			40	with valve aid.

The loss of hearing is reduced from 92 per cent. with auricles to 40 per cent. with a valve aid.

This girl gave a result well up to normal with the Burt reading tests, which shows that it would be dangerous to take the extent of backwardness as an indication of the need for help in the form of hearing aid.

Conclusions.

The gramophone audiometer is a useful means of detecting loss of hearing, but is not sufficiently reliable to measure its extent in individuals.

The loss of hearing for speech may be much greater than is indicated by the loss shown from tests with the Pure Tone Audiometer.

Backwardness in educational attainments appears to be associated with defective hearing. Though such a defect may not be the only cause, it must be recognised that it is one of the factors involved. It is significant that all but six of the 132 children tested would be classified in Grade I., including the eleven non-readers. The indications are that help of some sort is, in fact, necessary.

The only practical aids so far suggested are of the auricle type and they are found to be by no means consistently of value.

The only satisfactory way to help children with defective hearing is by the formation of special classes. The teacher would be fully qualified for elementary school teaching, and would have the additional qualification of having attained satisfactory proficiency in the teaching of lip-reading. The children would be under her supervision and instruction for a period of, say, one year, and would then return to their normal classes.

Special classes are strongly recommended for the following reasons. Proficiency in lip-reading is always necessary as well as an aid, as shown by I. R. and A. W. G. Ewing, in " The Handicap of Deafness " (1938). Secondly, in cases where electrical aids would be of help the use of an individual instrument is inadvisable in an ordinary school class because of the tendency to the inevitable amplification of room noises. Thirdly, it is advantageous that skill in lip-reading should be developed through the medium of teaching in ordinary school subjects.

References.

(1) Board of Education Report : " Children with Defective Hearing " (1938), pp 125 and 126.
(2) Fletcher, H. and Steinberg, J. C. (1930), Articular Methods. J. acoust. Soc. Amer. I. 1—97.
(3) Burt Cyril (1921). Mental and Scholastic Tests.

Dr. L. Fay has contributed the following paper :—

AN INQUIRY INTO THE INCIDENCE OF DEFECTIVE COLOUR VISION AS REVEALED BY THE ISHIHARA TEST.

As the subject of colour vision has been dealt with comprehensively in previous Annual Reports, and as the rationale of the Ishihara test has also been described, this article is necessarily brief and limited in its scope.

The test was carried out along with the routine medical examination of some 1,200 boys at four secondary schools. Twenty-four plates were exhibited, the boys were provided with pencils and strips of paper and instructed to write down the number which could be discerned on each plate. The boys filed along the bench with sufficient spacing to prevent " cribbing " and the test occupied very little extra time and was readily understood. N.B.—The test must be carried out in a good, natural light as artificial light completely invalidates the test.

Results :

No. of boys tested	1,207
No. with defective colour vision according to test ...	75
Percentage Incidence of Defective Colour Vision ...	6·21

The Ishihara test enables the hypochromats to be divided into three groups which are as follows :—

Green blind	33
Red blind	12
Incomplete Red-green Blind	30
	75

These three groups may be briefly described as follows :—

The normal sighted person recognises six essentially different colours in the luminous spectrum, and can match accurately any colour by a mixture of spectral red, green, and blue or violet in suitable proportions. It is in this sense that normal colour vision is said to be TRIchromatic. Two of these three groups of hypochromats, however, according to the report to which later reference is made, are said to have only DIchromatic vision inasmuch as it is possible for them to match every monochromatic light in the spectrum by a mixture of only two spectral colours, *i.e.*, red and blue, or, red and violet. The two groups differ profoundly from each other in their reactions to reds and greens. The " complete red-blinds," for instance, confuse a slightly bluish red with a dark green, whereas the " complete green-blinds " confuse a much bluer red with a green which is of the same brightness to the normal trichromat.

The terms " red-blind " and " green-blind " are used as discriminating labels and do not, in any way, imply that the victims are actually completely imperceptive to red or green. It is not known exactly what these people do see, all that is known is that they do see colours but in a very different way from the normal. They constitute the most glaring examples of defective colour vision. The majority of hypochromats, however, fall outside these two groups and are known as anomalous trichromats, forming an intermediate stage between the grossly defectives and the normals. The anomalous trichromats are rarely aware of their defect and indeed may pass through life with no apparent disability. It must be appreciated that there is no sharp division between these three groups. Between the " complete red blind," whose defect is usually the grossest and the mild anomalous trichromat (incomplete red-green blind) who is little short of normal, there are innumerable gradations of defects which merge into each other. Furthermore, the extent of defect of the anomalous trichromat is influenced by numerous factors, *i.e.*, fatigue, worry, brightness of the light, visual angle, and duration of exposure. These variant factors may cause widely different results in the same individual tested at different times and under different circumstances.

In interpreting the results of this inquiry, the classification is necessarily elastic in view of the numerous intermediate gradations. The " mainly red-blinds," and " mainly green-blinds " have a grosser defect than the incomplete red-green blinds. All the dichromats fall into the first two groups but it is probable that some of the grosser types of anomalous trichromats are also included, although Ishihara claims his test confines these two groups to dichromats.

The incidence of these three groups as revealed by this inquiry, *i.e.* :

" Mainly red-blinds "	1·0%
" Mainly green-blinds "	2·9%
" incomplete red-green blinds " (anomalous trichromats)	2·5%

may be compared with the following statement in the Report of the Medical Research Council on Colour Vision Requirements in the Royal Navy (Special Report Series No. 185), from which Report the writer has obtained much of the data embodied in this paper :—

> " Defective colour vision is much commoner than is generally supposed. An unselected male population contains at least 4 per cent. of crudely defective persons (dichromats). The anomalous trichromats are considerably more numerous. Six per cent. is a very conservative estimate of the incidence of anomalous trichromatism among some 30,000 naval ratings (a selected population), tested in the course of this investigation. On the lowest estimate, therefore, more than ten per cent. of an unselected male population have imperfect colour vision."

The same Report states that the red-blind dichromat reveals the most glaring errors on test and that the anomalous trichromat is rarely aware that he is defective. During this inquiry each hypochromat was questioned closely concerning any disability he had experienced, with the following results :—

Mainly red-blinds, 75% were aware of their disability.
Mainly green-blinds, 36% were aware of their disability.
Incomplete red-green blinds, 25% were aware of their disability.

It was interesting to note that most of the hypochromats who were not aware were extremely sceptical on being informed, and that those who were aware admitted it reluctantly and were disinclined to expatiate on the subject. One boy, however, who incidentally failed very badly in the test, and who was undoubtedly a complete green-blind dichromat, admitted that he had unwittingly painted some sheep pink in the art class.

Is defective colour vision a serious handicap ?

It is obvious that for certain occupations, such as most maritime posts, pilots and observers in the Royal Air Force, certain occupations in textiles, designing, certain classes of railway work, etc., defective colour vision is a crippling handicap and that for the dichromat this test could, no doubt, be extended. The writer, however, noted that a Headmaster of one of the schools under review who was a " mainly green blind," and that a physician of some eminence who was an " incomplete red-green blind," had both reached middle age in happy ignorance of their disability.

CONCLUSIONS.

(1) The Ishihara test is a simple and satisfactory method of testing for defective colour vision in secondary schools.

(2) The rate of incidence was found to be 6·21 per cent., which may be compared with the results of previous inquiries, 4·3 per cent., 1933 ; and 6·6 per cent., 1934. (The 1933 results were based on the Ishihara test but this test was applied only to children who had previously failed at the Collins-Deever group test.)

(3) The writer formed the impression that, excluding complete dichromats and a very few and very specialised occupations, defective colour vision could not be regarded as a serious disability regarded from a purely economic aspect.

Dr. A. V. Stocks has contributed the following paper :—

DIPHTHERIA IMMUNISATION IN URMSTON.

A full account was given in previous Reports (1932, p. 105–15 and 1933 p. 114–16) of a campaign in which nearly one thousand children were treated at the Davyhulme School Clinic under arrangements made by the School Medical and Child Welfare Department of the Lancashire County Council. Pre-Schick tests were made on seven hundred and sixty-four children, of whom one hundred and ninety-five were found to be Schick negative ; five hundred and sixty-nine were found to be Schick positive, and these were immunised with three doses of toxoid antitoxin mixture. In addition two hundred and forty younger children were immunised with the same material without previous Schick testing.

URMSTON URBAN DISTRICT COUNCIL'S SCHEME.

Early in 1937, the Urmston Council formulated a Scheme for free immunisation against Diphtheria, which was only to be put into operation if a sufficient number of consents was forthcoming from parents of school children. These parents were circularised in July, 1937, and over fifteen hundred gave their consent, or about half of the elementary school population. The Scheme provided for the injection of three doses of toxoid antitoxin floccules at intervals of a fortnight by general medical practitioners working on a rota at sessions at the School Clinic. The Council were to provide the toxoid antitoxin material and all necessary drugs and dressings, needles, etc., and all necessary clerical assistance, and to pay fees to the medical practitioners ; the Lancashire County Council agreed to allow the use of the school clinic and to provide nursing assistance at the actual sessions. The consent of the County and of the Ministry of Health having been obtained, the co-operation of the local Medical Profession was sought and was immediately forthcoming, the services of twelve doctors being enlisted for the rota. The Scheme was put into operation in September, 1937, and for 18 months the clinics were held three times a week, from thirty-five to forty children attending at each session.

The following Table shows the number of children so far dealt with under this immunisation scheme :—

NUMBER OF CHILDREN IMMUNISED.

Year.	School Children.	Children under School Age.	Total.
1937	397	55	452
1938	1,132	251	1,383
1939 (to end of March)	104	60	164
	1,633	366	1,999

Out of the total 1,999, only 24 failed to complete the required course of treatment, the reasons being as follows :—

Left the District	5
Reaction following treatment	7
Other illness causing interruption	2
No reasons given	10

The fact that such a large percentage of children attended for all the injections required, is creditable alike to parents and to the staff of the immunisation clinic.

SCHICK TESTS.

During 1938, one hundred and sixty-nine children were Schick tested and a further thirty-eight Schick tests were done in the first quarter of 1939. These were mainly post-Schick tests done in order to determine whether children in one of the following categories were immune or not, with a view to deciding on the desirability of further immunisation treatment. The tests were done by selected medical practitioners at the School Clinic.

(1) The first category consisted of one hundred and forty-two children who had been immunised some time ago in one or other of the following ways :

(*a*) Children previously immunised by private practitioners or under other local authorities' schemes at various times during the past eight years. These children numbered forty-four, and Schick tests during 1938 showed thirty-seven (or 84 per cent.) to be still immune.

Nothing is known of the " pre-Schick " condition of these children prior to their immunisation.

(*b*) Children previously immunised under the Lancashire County Council's Scheme in 1931–33. These may be considered in two groups :

Group 1.—This consisted of forty-one children who had had a " pre-Schick " test in 1932, and were found to be positive, and therefore received three doses of toxoid anti-toxin mixture at weekly intervals. Recent Schick tests have shown that thirty-one of these (or 78 per cent.) were still immune. It may be pointed out that fourteen out of the forty-one children had also had a post-Schick test in 1932, with a negative result. In the tests done in 1938, four of these had relapsed into a Schick positive condition.

Group 2.—This consisted of fifty-seven children who received three doses of toxoid anti-toxin mixture in 1932–33 without previous Schick testing. Schick tests during this last year showed that forty-seven (or 82 per cent.) were Schick negative, therefore still immune.

The number of children in these two groups total 98 (80 per cent.) of whom seventy-eight were found on Schick testing to be still immune.

An interesting fact which emerged from these results was that three children who were found to be Schick negative when they had their pre-Schick test in 1932, and were, therefore, presumed to be naturally immune, had lost some of this immunity by 1938—the reaction being positive, although in two cases, only to a slight, though noticeable extent.

(2) The second category consisted of twenty-seven children who had had diphtheria at some time previously. Schick tests showed that ten of these had lost the immunity conferred by the disease and were again susceptible.

(3) The third category consisted of fifteen children who had had one or two injections of toxoid antitoxin floccules under the present scheme and had been unable to complete the course. All, except one, were found on Schick testing to be sufficiently immunised by the treatment already given. The interval elapsing between treatment and Schick testing varied from 3–12 months.

CONCLUSIONS TO BE DRAWN FROM THE SCHICK TEST RESULTS.

1.—Artificial immunity produced by three injections of toxoid antitoxin mixture is effective for at least six years in about 80 per cent. of children.

2.—Schick negative results, whether in immunised or non-immunised children, are not necessarily permanent. Relapse to a Schick-positive condition is always possible, due presumably to the alteration in the immune substances in the blood. This subject is referred to on page 116 of the County Medical Officer's Annual Report for 1933.

3.—An attack of Diphtheria does not always confer permanent immunity against further attack. The Schick test shows that many children subsequently become Schick positive, or susceptible again after a period of years.

Effect of Immunisation Campaign on Incidence of Diphtheria.

This may be conveniently considered under three headings :—

(1) In a district as a whole. It is not possible as yet to state that there has been any fall in incidence of diphtheria since the scheme came into operation fifteen months ago, but the full effect of it will naturally not be felt until towards the close of 1938. Although diphtheria has been more than usually prevalent in the districts adjacent to Urmston during the past year, there has been no epidemic in the district. Although the number of school children immunised is entirely satisfactory, the number of immunised children under school age requires to be raised to a higher level before one can expect noticeable diminution in the incidence of diphtheria in the district.

(2) In the schools. Only six cases have occurred amongst the elementary school population during the year 1938, and these have all been isolated cases, scattered over four schools, with no secondary infection occurring.

(3) Individual protection. Three cases of diphtheria or suspected diphtheria have occurred during 1938 in children who had had some immunisation treatment, but the circumstances were not such as to throw doubt on the efficacy of immunisation.

In one case the diphtheria was contracted before the second injection was due, and in another case it was contracted a fortnight after completing the course and before the protective effect could be established. In the third case there were three children in the family, two of whom had been immunised a year before, and one not. The one who had not been immunised contracted diphtheria, one of the immunised children escaped, and the other immunised child was found to be carrying diphtheria organisms in the nose, and was treated in Hospital for this, although never a true diphtheria case.

In conclusion, it may be said that no child who has had a full course of treatment under this present scheme, together with the necessary period for the protection to be established, has contracted clinical diphtheria since. A number of children who have been immunised are known to have been exposed to infection in connection with other cases occurring in the district, and have escaped the disease presumably on account of the immunity conferred by the treatment.

Mr. R. E. Hodgson, B.D.S., has contributed the following paper :—

THE AFTER RESULTS OF DENTAL TREATMENT IN DISTRICT 1.

Early in 1938 I was asked by the County Medical Officer if it would be possible in some way to make an investigation into the after-results of Dental Treatment given at the Clinics.

Various means were discussed including the circularisation of children who had left school and the examination of those who had passed to a Secondary School.

It was decided that the first was impracticable, but that an investigation could be carried out at one of the Secondary Schools in the area.

I arranged, therefore, to make an inspection at the Ulverston Grammar School of those children who had attended the Clinics for Dental treatment during the time they had been attending an Elementary School. Before doing this I had to decide as to what form the investigation must take to be of use.

After due consideration the following particulars were chosen as being essential:—

(1) Age.
(2) Date of last attendance at Clinic.
(3) The amount of private treatment received since leaving Elementary School.
(4) A chart of the present state of mouth.
(5) The extent of the care taken by the child of its mouth.

The amount of private treatment was noted under three headings :—

(*a*) Extensive... More than three fillings and/or three extractions.
(*b*) Little ... Less than three fillings and/or occasional "Toothache" extractions.
(*c*) Nil.

The care was noted as :—

(*a*) Regular.
(*b*) Irregular.
(*c*) Nil.

As, partly owing to the effects of civilisation, perfect mouths are the exception rather than the rule nowadays, some standard had to be decided upon.

I came to the conclusion that the best standard to work to would be a " functional " or truly useful mouth.

As the six year molars are sometimes removed to prevent overcrowding and often some of the premolars in cases where the six year molars are retained, I decided that a mouth containing 24 teeth could be considered as good, provided the teeth were in reasonably good occlusion.

A mouth with 20 to 24 teeth was taken as being fair, while a mouth with only 19 or less was definitely bad. (In all these cases the numbers refer to sound teeth.)

Full account was also taken of the perfect mouth and with reference to this it must be noted that no third molars were taken into account so that the " perfect " mouth was one in which there were 28 sound teeth.

During the inspection, 239 cases were examined, of these 119 were boys and 120 girls.

The preliminary details of the results were as follows :—

Table A.

	Boys.	Girls.
No. examined	119	120
No. of fillings done privately since leaving Elementary School ...	68	48
No. of Extractions	120	119
No. of old fillings intact	121	205
No. of old fillings lost	50	60
Care of mouth : Regular	46	99
Irregular	66	20
Nil	7	1
No. of mouths with 28 sound teeth	11	7
No. of mouths with not less than 24 sound teeth	64	52
No. of mouths with not less than 20 sound teeth	32	43
No. of mouths with less than 20 sound teeth	12	18

It will be seen from the above that the gross percentage loss of teeth which had been filled previously is as follows :—

Boys	29 per cent.
Girls	22 per cent.

This percentage looked high at first, so the next thing to be done was to analyse these losses.

Before going into this matter further, two aspects of the losses have to be taken into account :—

(*a*) *The amount of care taken, by the child, of the mouth.*
(*b*) The number of teeth previously filled which had to be removed later either for orthodontic purposes or to " balance " the mouth.

With regard to (*a*) it is generally recognised that unless oral hygiene is practised in its entirety both in cleansing and correct diet, there is a great risk that conservative work will not be successful. I, personally, have made it a condition that this shall be done before any restorations are carried out because I have come to the conclusion that it is a waste of time filling teeth in uncared-for mouths.

(*b*) Opens up a large field and a few words might not be out of place at this stage of the report.

It has been the practice of a considerable number of Dental Surgeons for many years now to practice what may be designated " bilateral extraction " in order to keep the teeth in even occlusion and so promote a " functional " mouth where a perfect mouth is impossible.

There are two things to consider when a permanent tooth, say a six year molar has to be extracted.

One is that by the unilateral extraction of one tooth the remaining teeth anterior to the one lost have a tendency to move posteriorly and so tend to fill up the space left which almost invariably upsets the midline of the bite in the jaw concerned, thereby upsetting the occlusion, and in many cases, giving rise to a non-functional mouth.

This can be counteracted by bilateral extraction, *e.g.*, if one six year molar is lost the corresponding six year molar in the same jaw is also removed, even if previously filled, to equalise the movement of the anterior teeth and the premolars.

Secondly, as an extension of this principle, it is considered best by some schools of thought that to make the occlusion as perfect as possible, it is advisable to remove also the corresponding opposing teeth in the other jaw. One argument in favour of this is that once a tooth has lost its opposing fellow it tends to become functionless and to bear this out I have often found that where teeth are left without an opposing tooth they tend to become unhealthy periodontally and are also prone to the deposition of calculus thus creating a further menace from the point of view of healthy and sound occlusion.

It is of the utmost importance, however, to retain the six year molars or at any rate two of them on the same side until the 12 year molars or the premolars erupt in order to " gag the bite " as it is called for if all four six year molars are lost before either the premolars or 12 year molars erupt there follows almost immediately a condition of excessive overlap of the incisors in which case again a good functional occlusion can never be attained. Many six year molars are, therefore, filled with no other object than to keep them until the child reaches the age of 10—12 years. I have seen these teeth badly decayed at 6½ years and in many cases only a temporary restoration can be hoped for at the most.

In these cases I think early extraction of the deciduous molars is advisable to encourage early eruption of the premolars.

The result of the further analysis of the filling losses was as follows :—

Table B.

	Boys.	Girls.
	%	%
Gross filling loss	29	22
Loss in cases where " care " irregular	12	8
Loss in cases where " care " irregular for orthodontic reasons ...	4	1
Loss in cases where " care " regular	9	10
Loss in cases where " care " regular for orthodontic reasons ...	4	3
Net filling losses in " cared-for " mouths	5	7

The question as to how far the six year molar was responsible for these losses was investigated and it was found that *of the six year molars filled, irrespective of condition, 43 per cent. were lost in the boys and 37 per cent. in the girls,* thus showing the chief offender in the filling casualties. This can be put down to two reasons in that these teeth are often very badly decayed when first examined. :—

(1) The dreadful ignorance of parents with regard to the fact that this is a second tooth. I have been called a liar by parents more times than I can remember about this particular tooth.

(2) A particular liability to caries in this molar owing to its very early calcification making it more or less dependent on the calcium assimilation of the mother.

A third Table was compiled of the number of years standing of the sound fillings examined and is as below :—

No. of years standing of sound fillings (over two years).

3 years.	4 years.	5 years.	6 years.	7 years.	8 years.
93	47	29	37	26	30

A particular observation was made to note any cases of oral sepsis or commencing periodontal disease, and it was noteworthy that only four cases of actual sepsis in individual teeth and one case of gingivitis were observed.

To revert to the original idea of a sound functional mouth, in the 239 cases examined, 134 had this qualification of having not less than 24 teeth sound and in good occlusion.

Seventy-five had reasonably good mouths in which not less than 20 sound teeth were functioning.

It must also be realised that later in life these mouths would probably be supplemented by the third molars bringing the number up to 28 and 24 respectively.

Of this total of 209 with good and reasonably good mouths 153 had been regular attenders at the Clinic ; the remainder were irregular.

Of the total number inspected (239), only 29 had received extensive private treatment since leaving an Elementary School, and of this number 20 had been irregular attenders at the Clinic (mostly for toothache) and the others could be classed as being due to lack of care, rapid caries and trauma.

In conclusion, I should like to say that I was assisted very much in this investigation by Dr. Cousins, the Headmaster, who placed all his records at my disposal and did everything he could to help me.

MISCELLANEOUS.

During 1938, 130 Bursars and 151 candidates for Bursaries were medically examined.

The year saw an increase in the number of children examined under the Children and Young Persons Act, 1933. They numbered 1,207, of whom 25 were referred on account of delinquency and 1,182 for an opinion as to their fitness for certain work while still attending school.

As a result of this Act it became necessary to examine in certain cases juvenile delinquents with a view to assessing and reporting on their mental and physical fitness. Assistant County Medical Officers examine (*a*) all cases which are about to be sent to Approved Schools, (*b*) all cases which are sent to a Remand Home, (*c*) all cases prior to their appearance before the magistrates, in which it appears likely that a report will be requested, (*d*) all cases recommended for birching.

Four forms are used in dealing with these cases—the first gives the School Record, the second deals with the Home Surroundings, the third deals with the School Record and Other Information, while the fourth is a Medical Report. Broadly speaking this Report gives the Medical Officer's opinion of the physical and mental state of the child.

In the cases of (*b*) and (*c*) the Reports are intended as a help to magistrates in coming to a decision as to the best course to adopt with the juvenile delinquent.

Each year all the children who are about to attend a school camp are examined by the School Medical Inspectors. The purpose of the examination is to make sure that no child who attends the camp will convey an illness to any other child, and that the child himself is in a suitable state of health to benefit by going to camp.

Considerable disappointment has sometimes been experienced by boys desirous of entering the Royal Air Force as Boy Entrants or Aircraft Apprentices, owing to their rejection on medical grounds by the Service Examiners. It frequently happens that boys have in mind Royal Air Force careers for some years before they are old enough to enter the Service, and during these years they direct their energies to that end. In order to eliminate, as far as possible, rejection on medical grounds, the School Medical Officer has agreed to co-operate with the Air Ministry by arranging for a preliminary medical examination of candidates nominated by the Director of Education.

From time to time the School Medical Officer, at the request of the Director of Education, arranges for the medical examination of school teachers whose health has broken down. These examinations are usually arranged in consultation with the patients' private medical adviser. During the past year one elementary school teacher was medically examined and reported on by a member of the medical staff.

Under the Child Life Protection sections of the Public Health Act, 1936, any person who undertakes for reward the nursing and maintenance of a child under the age of nine years apart from his parents, such child not being naturally related to, or legally adopted by that person, is required to give notice thereof to the Welfare Authority, and it is the duty of the Authority to make enquiry from time to time whether there are any persons residing in its area who undertake the nursing and maintenance of foster children. Under the powers conferred by this Act, the School Nurses and Health Visitors have been authorised to act in the capacity of Child Protection Visitors and to examine any foster children and the premises in which they are kept in order to satisfy themselves as to the health and well-being of the children and to give any necessary advice or directions as to the care of their health and maintenance. During 1938 the School Nurses and Health Visitors saw 131 children who were being maintained by foster-parents, making a total of 362 visits for this purpose.

APPENDIX.

STATISTICAL TABLES IN RESPECT OF THE ROUTINE INSPECTION OF ELEMENTARY SCHOOLS CARRIED OUT DURING THE YEAR ENDED 31ST DECEMBER, 1938.

TABLE I.—Medical Inspection of Children Attending Public Elementary Schools.

A.—Routine Medical Inspections.

Number of Inspections in the prescribed Groups—		
Entrants	12,112	
Second Age Group	13,334	
Third Age Group	10,538	
Number of other Routine Inspections	—	
Total		35,984

B.—Other Inspections.

Number of Special Inspections	40,484	
Number of Re-inspections	52,466	
Total		92,950

C.—Children Found to Require Treatment.

Number of *Individual Children* found at *Routine* Medical Inspection to require Treatment (excluding Defects of Nutrition, Uncleanliness and Dental Diseases).

Group.	Defective Vision (excluding Squint).	All other Conditions.	Total.
Entrants	49	1693	1742
Second Age Group	889	1492	2381
Third Age Group	771	1022	1793
Other Routine Inspections	—	—	—
Total	1709	4207	5916

TABLE II.

A.—Return of Defects found by Medical Inspection in the Year ended 31st December, 1938.

	Defect or Disease.	Routine Inspections.		Special Inspections.	
		No. of Defects.		No. of Defects.	
		Requiring Treatment.	Requiring to be kept under observation, but *not* requiring Treatment.	Requiring Treatment.	Requiring to be kept under observation, but *not* requiring Treatment.
Skin.	Ringworm—				
	Scalp	5	4	63	7
	Body	4	...	112	11
	Scabies	58	4	474	33
	Impetigo	179	22	1439	8
	Other Diseases (Non-Tuberculous)	387	327	2228	126
Eye.	Blepharitis	186	79	399	49
	Conjunctivitis	51	88	358	33
	Keratitis	2	1	18	1
	Corneal Opacities	...	7	8	6
	Other Conditions (excluding Defective Vision and Squint)	50	69	347	44
	Defective Vision (excluding Squint)	1709	1752	1317	696
	Squint	288	333	361	148

TABLE II.—Continued.

Defect or Disease.		Routine Inspections.		Special Inspections.	
		No. of Defects.		No of Defects.	
		Requiring Treatment.	Requiring to be kept under observation, but *not* requiring Treatment.	Requiring Treatment.	Requiring to be kept under observation, but *not* requiring Treatment.
Ear.	Defective Hearing	80	84	252	81
	Otitis Media	139	35	634	33
	Other Ear Diseases	290	71	757	60
Nose and Throat.	Chronic Tonsillitis only ...	618	3227	1069	1566
	Adenoids only	73	120	143	96
	Chronic Tonsillitis & Adenoids	651	444	1428	358
	Other Conditions	182	639	1074	1489
Enlarged Cervical Glands (Non-Tuberculous)		52	2358	324	767
Defective Speech		17	196	26	69
Heart and Circulation	Heart Disease—				
	Organic	45	207	60	98
	Functional	38	885	46	508
	Anæmia	140	112	295	72
Lungs.	Bronchitis	309	318	517	136
	Other Non-Tuberculous Diseases	17	333	93	128
Tuberculosis.	Pulmonary—				
	Definite	1	3	1	...
	Suspected	1	8	6	17
	Non-Pulmonary—				
	Glands	8	16	30	20
	Bones and Joints ...	5	9	3	6
	Skin	1	...	1	1
	Other Forms	...	11	4	7
Nervous System.	Epilepsy	4	12	13	24
	Chorea	8	20	90	47
	Other Conditions	3	31	72	44
Deformities	Rickets	30	159	19	136
	Spinal Curvature	64	124	34	41
	Other Forms	304	817	409	313
Other Defects and Diseases (excluding Defects of Nutrition, Uncleanliness and Dental Diseases) ...		486	1001	6025	1192
Total No. of Defects ...		6485	13926	20549	8471

B.—CLASSIFICATION OF THE NUTRITION OF CHILDREN INSPECTED DURING THE YEAR IN THE ROUTINE AGE GROUPS.

Age-Groups.	Number of Children Inspected	A (Excellent)		B (Normal)		C (Slightly sub-normal)		D (Bad)	
		No.	%	No.	%	No.	%	No.	%
Entrants	12,112	1,131	9·34	10,069	83·13	876	7·23	36	0·30
Second Age-Group ...	13,334	1,370	10·27	10,651	79·88	1,234	9·25	79	0·59
Third Age-group ...	10,538	1,318	12·50	8,309	78·84	875	8·30	36	0·34
Other Routine Inspections ...	...	...	...	...	...	...	...	...	...
TOTAL	35,984	3,819	10·61	29,029	80·67	2,985	8·30	151	0·42

TABLE III.—RETURN OF EXCEPTIONAL CHILDREN IN THE AREA.

BLIND CHILDREN.

At Certified Schools for the Blind.	At Public Elementary Schools.	At Other Institutions.	At no School or Institution.	Total.
11	1	...	3	15

PARTIALLY SIGHTED CHILDREN.

At Certified Schools for the Blind.	At Certified Schools for the Partially Sighted.	At Public Elementary Schools.	At other Institutions.	At no School or Institution.	Total.
26	...	32	...	11	69

DEAF CHILDREN.

At Certified Schools for the Deaf.	At Public Elementary Schools.	At Other Institutions.	At no School or Institution.	Total.
44	1	1	3	49

PARTIALLY DEAF CHILDREN.

At Certified Schools for the Deaf and Partially Deaf.	At Public Elementary Schools.	At other Institutions.	At no School or Institution.	Total.
27	14	...	2	43

MENTALLY DEFECTIVE CHILDREN.

FEEBLE-MINDED CHILDREN.

At Certified Schools for Mentally Defective Children.	At Public Elementary Schools.	At Other Institutions.	At no School or Institution.	Total.
15	304	2	41	362

EPILEPTIC CHILDREN.

Children Suffering from Severe Epilepsy.

At Certified Special Schools.	At Public Elementary Schools.	At Other Institutions.	At no School or Institution.	Total.
7	1	4	22	34

PHYSICALLY DEFECTIVE CHILDREN.

A.—Tuberculous Children.

I.—Children Suffering from Pulmonary Tuberculosis.
(Including Pleura and Intra-thoracic Glands.)

At Certified Special Schools.	At Public Elementary Schools.	At Other Institutions.	At no School or Institution.	Total.
18	8	3	8	37

II.—Children Suffering from Non-Pulmonary Tuberculosis.
(This category includes Tuberculosis of all sites other than those shown in (I.) above.)

At Certified Special Schools.	At Public Elementary Schools.	At Other Institutions.	At no School or Institution.	Total.
54	104	...	65	223

B.—Delicate Children.

At Certified Special Schools.	At Public Elementary Schools.	At Other Institutions.	At no School or Institution.	Total.
17	236	24	58	335

C.—Crippled Children.

At Certified Special Schools.	At Public Elementary Schools.	At Other Institutions.	At no School or Institution.	Total.
45	336	...	110	491

D.—Children with Heart Disease.

At Certified Special Schools.	At Public Elementary Schools.	At Other Institutions.	At no School or Institution.	Total.
2	88	...	32	122

TABLE III (*Continued*).—CHILDREN SUFFERING FROM MULTIPLE DEFECTS.

Combination of Defect.	At Certified Special Schools.	At Public Elementary Schools.	At Other Institutions.	At no School or Institution.	Total.
Blindness and Mental Defect	1	...	...	6	7
Blindness, Mental Defect and Crippling	...	...	...	1	1
Deafness and Mental Defect	1	...	...	5	6
Mental Defect and Epilepsy	...	2	...	10	12
Mental Defect and Crippling...	...	7	...	28	35
Mental Defect and Heart Disease	...	2	...	1	3
Mental Defect, Active Tuberculosis and Crippling...	...	...	...	1	1
Mental Defect, Epilepsy and Crippling	...	...	1	3	4
Epilepsy and Crippling ...	...	2	...	1	3
Active Tuberculosis and Crippling...	...	1	...	1	2
Crippling and Heart Disease	...	1	...	1	2
Total ...	2	15	1	58	76

TABLE IV.—RETURN OF DEFECTS TREATED DURING THE YEAR ENDED 31ST DECEMBER, 1938.

TREATMENT TABLES.

Group I.—Minor Ailments (excluding Uncleanliness).

DISEASE OR DEFECT.	No. of Defects treated or under Treatment during the year.		
	Under Authority's Scheme.	Otherwise.	Total.
Skin—			
Ringworm—Scalp—			
(i.) X-Ray Treatment.	10	...	10
(ii.) Other Treatment	54	4	58
Ringworm—Body	134	3	137
Scabies	448	8	456
Impetigo	2320	25	2345
Other Skin Disease	1555	70	1625
Minor Eye Defects	1553	38	1591
Minor Ear Defects	1481	78	1559
Miscellaneous (*e.g.*, minor injuries, bruises, sores, chilblains, etc.). ...	10566	378	10944
Total	18121	604	18725

Group II.—Defective Vision and Squint.

(excluding Minor Eye Defects treated as Minor Ailments).

	NO. OF DEFECTS DEALT WITH.			NO. OF CHILDREN FOR WHOM SPECTACLES WERE :—			
				Prescribed.		Obtained.	
	Under the Authority's Scheme.	Otherwise.	Total.	Under the Authority's Scheme.	Otherwise.	Under the Authority's Scheme.	Otherwise.
Errors of Refraction (including Squint)	7434	147	7581	5151	146	4720	146
Other Defect or Disease of the Eyes	205	6	211				
Total	7639	153	7792	5297		4866	

Group III.—Treatment of Defects of Nose and Throat.

NUMBER OF DEFECTS.													
RECEIVED OPERATIVE TREATMENT.												Received other forms of Treatment.	Total Number Treated.
Under the Authority's Scheme in Clinic or Hospital.				By Private Practitioner or Hospital, apart from the Authority's Scheme.				Total.					
(*a*)	(*b*)	(*c*)	(*d*)	(*a*)	(*b*)	(*c*)	(*d*)	(*a*)	(*b*)	(*c*)	(*d*)		
335	35	2111	3	17	1	126	7	352	36	2237	10	30	2665

(*a*) Tonsils only. (*b*) Adenoids only. (*c*) Tonsils and Adenoids. (*d*) Other defects of Nose and Throat.

Group IV.—Orthopædic and Postural Defects.

	Under the Authority's Scheme.			Otherwise.			Total number treated.
	Residential treatment with education.	Residential treatment without education.	Non-residential treatment at an orthopædic clinic.	Residential treatment with education.	Residential treatment without education.	Non-residential treatment at an orthopædic clinic.	
Number of Children Treated ...	117	48	1476	1	4	19	1559

Table V.—Dental Inspection and Treatment.

(1) No. of children inspected by the Dentist—

(*a*) Routine Age Groups	Age 5 ... 7032 Age 6 ... 5717 Age 7 ... 5889 Age 8 ... 6184 Age 9 ... 6544 Age 10 ... 6245 Age 11 ... 6090 Age 12 ... 5524 Age 13 ... 5446 Age 14 ... 923	Total ...	55594
(*b*) Specials		...	11519
(*c*) Total (Routine and Specials)		...	67113

(2) Number found to require treatment		...	46782
(3) Number actually treated		...	33009
(4) Attendances made by children for treatment ...		...	54559
(5) Half-days devoted to	Inspection ... 555 Treatment ... 5982	Total ...	6537
(6) Fillings ...	Permanent teeth ... 21698 Temporary teeth ... 692	Total ...	22390
(7) Extractions	Permanent teeth ... 18003 Temporary teeth ... 61307	Total ...	79310
(8) Administrations of general anæsthetics for extractions		...	11837
(9) Other operations	Permanent teeth 10764 Temporary teeth 8801	Total ...	19565

Table VI.—Uncleanliness and Verminous Conditions.

(1) Average No. of visits per school made during the year by the School Nurses	6·32
(2) Total No. of examinations of children in the Schools by School Nurses	204009
(3) No. of children found unclean	11196